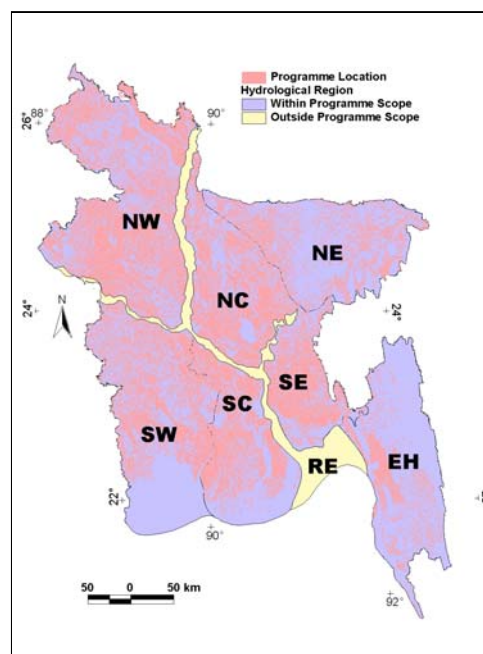


Rural Sanitation

Ref: TR 006

Basic DataNWMP Sub-sector **Towns and Rural Areas**Region(s) **Nationwide****Relevance to NWPo**

The programme will address basic policy objectives to provide hygienic and affordable sanitation for all the Rural Areas. The NWPo “mandates relevant public water and sewerage institutions to provide necessary drainage and sanitation, including treatment of domestic wastewater and sewage and replacement of open drains and construction of sewers, in the interest of public health”, “...regulate the use of water for preventing wastage and pollution by human action”, and “...create awareness among people in checking water pollution and wastage.” The NPSWSS reinforces these aims by highlighting the need for basic sanitation facilities, public health implications, environmental impacts and the importance of promoting social awareness through behavioural development and hygiene education especially for women and children.

**Purpose of Programme**

The projections prepared for the NWMP indicate that the rural population is expected to stabilise in the medium term and decline in the much longer term (i.e. after 2025), based on a predicted acceleration in migration to the cities and towns, especially Dhaka. NWMP projections show a modest increase in the rural population from 102 million in 2000 to nearly 108 million in 2025, before falling steadily to 88 million by 2050. Despite this trend, the demand for basic hygienic sanitation facilities will be high because of the current low service coverage. At present, only 40% of the rural population has access to a pit latrine; while the other 60% rely on “hanging latrines” (often over the nearest water course) or have no basic sanitation at all. This situation will lead to increasing localised pollution and higher incidence of disease, especially among women and children. Current estimates indicate that 57% of the rural population is classified as living in poverty.

The investment programme will require sustained commitment to provide hygienic sanitation facilities for the whole rural population and raise service coverage to 100% by 2010. The main affordable investment choices are expected to be hygienic pit latrines and household latrines with septic tanks to provide an improved level of comfort and privacy.

Programme Outline

Construction of appropriate and affordable sanitation facilities will continue throughout the implementation of the NWMP. The coverage targets by service type are summarised as follows:

Component	Year			
	2000	2005	2010	2025
Population (million)	102.0	104.8	107.1	107.7
Sanitation coverage (%)				
Pit latrine	40	75	75	60
Household latrine with septic tank	0	5	25	40
Total	40	80	100	100

Financing Arrangements

The investment programme will require the active and co-ordinated participation of rural communities with the support of NGOs and the private sector. Public awareness and health education campaigns should be integral components of the programme. Indicative financing targets are presented below:

Sector	%
Public (GoB and international development agencies)	5
Private (domestic)	95
Total	100

As part of the programme, rural communities should also receive basic training in the maintenance and upkeep individual sanitation facilities.

Objectives and Indicators

Objective	Suffix	Indicators/Mean of Verification	Due
• Sustainable operation and maintenance of rural sanitation systems	I1	• Frequency of service break downs	2010
• Reduced environmental pollution	I2	• Response times	
• Improved public health	I3	• Faecal coliform counts	2015
• 100% of rural populations have access to sanitation facilities	K	• Public health statistics	2020
• Demand for sanitation facilities and services created and satisfied in towns and rural areas	D	• Survey reports	2025
		• % service coverage verified by surveys	2025

Institutional Arrangements

The institutional arrangements for programme implementation are expected to comprise three components as defined by the NWPo and NPSWSS:

- (a) Public sector - the future role for the public sector will largely be to:
- continue the development of a flexible enabling environment;
 - provide appropriate technical support through DPHE;
 - establish an independent monitoring and regulatory framework;
 - promote education and awareness in the sanitation sector; and
 - provide access to supporting capital funds.

It will be particularly important for the public sector to ensure that the rural poor are adequately served.

- (b) Community-based participation, with or without NGO involvement - community participation and initiatives will be actively encouraged with investment funds from GoB and the promotion of partnership with the private sector.
- (c) Private sector participation - the private sector is expected to play an increasing role in the provision of sanitary equipment and services in partnership with rural communities. This implies that the beneficiaries are willing and able to pay.

The implementation of these institutional developments will need to be carefully formulated and programmed with the full political commitment of GoB and interested stakeholders. In the short to medium term, the Government will also establish an appropriate independent Regulatory Framework to supervise and monitor sector performance in the provision of sanitation services.

References and Documentation

- (a) Chapter 7, Development Strategy Report, March 2001
- (b) National Water Resources Database in WARPO

Linkages

The programme to improve and develop sanitation and sewerage facilities in the Large and Small Towns should be closely linked and co-ordinated with other NWMP programmes, namely:

- (a) Local Government Needs Assessment for Water Management (ID 001);
- (b) Local Government Capacity Building for Water Management (ID 005);
- (c) Independent Regulatory Bodies for the Water Supply and Sanitation Service Sector (ID 002);
- (d) Support to the Preparation of New Legislation (EE 001);
- (e) Field Testing of Participatory Management Models (EE 002);
- (f) Water Resources Legislation – Preparation of Supporting Ordinances (EE 003);
- (g) Project Preparation Procedures - Guidelines and Manuals (EE 004);
- (h) Regulatory and Economic Instruments (EE 005);
- (i) Field Testing & Finalisation of Guidelines for Participatory Water Management (EE 006);
- (j) Raising Public Awareness in the Wise Use and Management of Water (EE 010);
- (k) Private Sector Participation in Water Management (EE 011);
- (l) Alternative Financing Methods for Water Management (EE 013);
- (m) Rural Arsenic Mitigation (TR 002);
- (n) Rural Areas Water Supply and Distribution Systems (TR 004);
- (o) National Pollution Control Plan (EA 001);
- (p) National Water Quality Monitoring (EA 003); and
- (q) Public Awareness Raising and Empowerment in respect of Environmental Issues (EA 010).

In addition, planning and implementation should be co-ordinated with the Ministry of Local Government, Rural Development and Co-operatives (MoLGRDC), Department of Public Health Engineering (DPHE), Local Government Engineering Department (LGED), Ministry of Health (MoH), Department of Environment (DoE), WARPO, NGOs and other interested parties.

Risks and Assumptions

In principal, the rural sanitation programme is relatively straightforward technically, providing sufficient investment resources are available and the rural population is fully sensitised to the need for hygienic sanitation facilities. Local government agencies (e.g. DPHE) and NGOs will play an important role in ensuring that the rural population, especially women, is fully aware of the needs and implications.

Assumptions:

- A good standard of maintenance can be achieved.
- The willingness to provide a good level of commitment is supported at all levels
- The benefits of an improved environment are understood by the stakeholders

Rural Sanitation

Ref :

TR 006

Cluster :	Towns and Rural Areas	Region(s) :	All
Focus/Foci :	Sanitation	Location :	Rural Areas Nationwide
Start Year ¹ :	2001	Duration ² :	25 year(s)
		Agency(s) Responsible :	DPHE (Lead) CBOs, Private sector, LGIs (Supporting)
Short Description :	<p>§4.6.c of the NWPo "mandates relevant public water and sewerage institutions to provide necessary drainage and sanitation, including treatment of domestic wastewater and sewage and replacement of open drains and construction of sewers, in the interest of public health." The population of rural areas is expected to increase slightly over the next 25 years, from 102 million in 2000 to 108 million in 2025. At present, only 40% of the population has access to pit latrine facilities, the other 60% relying on 'hanging latrines' and open defecation which exacerbates pollution and public health problems and increases the likelihood of epidemic outbreaks of waterborne and water-related diseases. This programme aims to provide appropriate sanitation facilities for the whole rural population and raise and sustain service coverage at 100% by 2010.</p>		

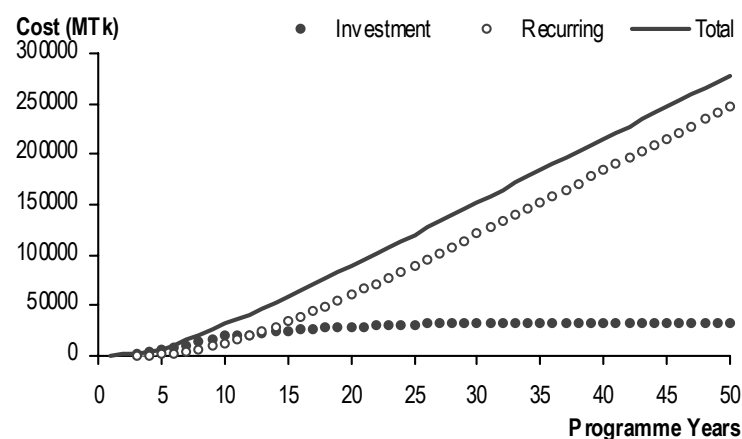
MIS Links

Cost Calculation :	TR Programme costing.xls	Map :	TR 006 Map.jpg
Disb't Schedule :	TR Programme costing.xls	Description :	TR 006 PgP.doc

Finance

Finance			Funding (%)		Expected by
	Costs	Private	GoB	Beneficiaries	ProgrammeYear
Total Capital ³	31,622.00 MTK	80%	20%	0%	25
Ultimate Recurring	5,901.00 MTK/yr	n/a	0%	100%	26

Date of Data :

31 07 01
 (dd) (mm) (yy)
Stacked Cumulative Cash Flow Chart

Status :

Identified

Financial Base Year:

mid-2000

Planned Expenditure (to date) :

0 MTkActual Expenditure⁴ (to date) :**0** MTk**Monitoring****Objective**

- Sustainable operation and maintenance of rural sanitation systems
- Reduced environmental pollution
- Improved public health
- 100% of rural populations have access to sanitation facilities

Indicator

- Frequency of service break downs
- Response times
- Faecal coliform counts
- Public health statistics
- Survey reports

Present Status⁵
 NYD
 NYD
 NYD
 NYD

Notes : 1. Indicative 2. Until commissioning 3. Inclusive of planning, design supervision 4. For future monitoring purposes and NWMP updates
 5. Present Status keys: NYD- Not yet due, IP- In progress, D- Done

National Water Management Plan

Programme Costing Sheet

Programme Ref	TR 006
Title	Rural Sanitation

Assumptions:

Taka/US\$	51.000	TA duration	0.0	years	All prices in mid-2000 values
		Investment duration	25.0	years ¹	

Item	Unit	Quantity	Rate		Amount TkM	O&M %	O&M/yr TkM
			US\$	Tk'000			

Technical Assistance

Expatriate consultants (all-in rate)	}	TA costs for this programme are included in the capital costs					
Senior National consultants (all-in rate)							
Mid-level National consultants (all-in rate)							
Sub-totals							
Other general TA programme costs							
Specific other TA programme costs							
Total TA Costs							

Investment items - short term

Standard single pit latrine	ls	na			7,560.0	22.5%	1,701.0
Household latrine with septic tank & soakaway	ls	na			2,232.0	18.8%	419.6

Investment items - term

Standard single pit latrine	ls	na			1,416.0	22.5%	318.6
Household latrine with septic tank & soakaway	ls	na			6,893.0	18.8%	1,295.9

Investment items - short term

Household latrine with septic tank & soakaway	ls	na			11,521.0	18.8%	2,165.9
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Total Investment Items					29,622.0	19.9%	5,901.0
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Overall Programme Costs					29,622.0		5,901.0
Additional NWMP provision to maintain capacity ahead of demand					2,000.0		398.4
					31,622.0		6,299.5

Notes	1	The step-wise approach to investment necessary to achieve and maintain installed capacity ahead of demands may mean that the total investment against +25 year demand is disbursed within the 25 year horizon. However, an additional provision will also be disbursed before the end of the 25 year, in order again to keep capacity ahead of ongoing demand increases.					
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Rural Sanitation			Coverage Targets (%)				
Option	Description	Total Annual Cost (Tk/capita)	2000	2005	2010	2025	2050
	Total population		102,000,000	104,800,000	107,100,000	107,700,000	88,000,000
N4.2.1	Standard Single Pit Latrine	45	40%	75%	80%	55%	25%
N4.2.2	Household Latrine with Septic Tank and Soakaway Facility	80	0%	5%	20%	45%	75%
N4.3	Large Septic Tank + Soakaway	117					
N4.4	Community Level Sanitation Facility	370					
			40%	80%	100%	100%	100%

Rural Sanitation		Coverage Targets - Number of Population				
Option	Description	2000	2005	2010	2025	2050
	Total population	102,000,000	104,800,000	107,100,000	107,700,000	88,000,000
N4.2.1	Standard Single Pit Latrine	40,800,000	78,600,000	85,680,000	59,235,000	22,000,000
N4.2.2	Household Latrine with Septic Tank and Soakaway Facility	0	5,240,000	21,420,000	48,465,000	66,000,000
N4.3	Large Septic Tank + Soakaway	0	0	0	0	0
N4.4	Community Level Sanitation Facility	0	0	0	0	0
		40,800,000	83,840,000	107,100,000	107,700,000	88,000,000

Rural Sanitation		Incremental Coverage Targets - Number of Population				
Option	Description	2000	2005	2010	2025	2050
	Total population	102,000,000	104,800,000	107,100,000	107,700,000	88,000,000
N4.2.1	Standard Single Pit Latrine		0	0	0	0
N4.2.2	Household Latrine with Septic Tank and Soakaway Facility		37,800,000	7,080,000	-26,445,000	-37,235,000
N4.3	Large Septic Tank + Soakaway		5,240,000	16,180,000	27,045,000	17,535,000
N4.4	Community Level Sanitation Facility		0	0	0	0
			43,040,000	23,260,000	600,000	-19,700,000

Rural Sanitation		Incremental Investment Requirements - Number of Population				
Option	Description	2000	2005	2010	2025	2050
	Total population	102,000,000	104,800,000	107,100,000	107,700,000	88,000,000
N4.2.1	Standard Single Pit Latrine		0	0	0	0
N4.2.2	Household Latrine with Septic Tank and Soakaway Facility		37,800,000	7,080,000	0	0
N4.3	Large Septic Tank + Soakaway		5,240,000	16,180,000	27,045,000	17,535,000
N4.4	Community Level Sanitation Facility		0	0	0	0
			43,040,000	23,260,000	27,045,000	17,535,000

Rural Sanitation		Incremental Investment Requirements - Capital Costs					
Option	Description	Unit Capital Cost Tk/capita	2000	2005	2010	2025	2050
	Total population		102,000,000	104,800,000	107,100,000	107,700,000	88,000,000
				TkM	TkM	TkM	TkM
N4.2.1	Standard Single Pit Latrine	200		7,560	1,416	0	0
N4.2.2	Household Latrine with Septic Tank and Soakaway Facility	426		2,232	6,893	11,521	7,470
N4.3	Large Septic Tank + Soakaway	872		0	0	0	0
N4.4	Community Level Sanitation Facility	1740		0	0	0	0
	Total Incremental Capital Cost			9,792	8,309	11,521	7,470
	Total Cumulative Capital Cost			9,792	18,101	29,622	37,092