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INTERNATIONAL DRINKING WATER SUPPLY
AND SANITATION DECADE



N E P A L

RESOURCE MOBILIZATION PROFILE

March 1986

His Majesty's Government
Kathmandu, Nepal

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RESOURCE MOBILISATION PROFILENEPAL1. INTRODUCTION1.1 General

1. Nepal's International Drinking Water Supply and Sanitation Decade Plan was prepared in 1980. It included estimates of the number of projects, population coverage and financial resources required during the Sixth (1980-81 to 1984-85) and Seventh (1985-86 to 1989-90) National 5-year Development Plan periods which together comprise the Decade Plan period.
2. Progress towards meeting the Decade population coverage objectives was reviewed in mid-1985. The review indicated that the Sixth Plan achievements, and the projected achievements with the known Seventh Plan resources, includes the confirmed external aid; would result in the following position.

	Required	Mid-Decade Review	
	achievement Decade Plan by 1990	Projected achievement by 1990	Popln. shortfall
Rural Water Supply	67%	52.1%	2.55 million
Urban Water Supply	95.6%	69.1%	0.38 million
Rural Sanitation	13.1%	1.2%	2.00 million
Urban Sanitation	17.6%	19.5%	

3. Factors that have contributed to these shortfalls include higher populations than originally projected in the 1980 Decade Plan. During the mid-Decade review, the overall population figures were projected on population & growth analysis of the 1981 Census and an urban population analysis of a recent (1984) HMG/UNDP/World Bank Project on Urban Water Supply Studies. These latter figures indicate higher populations to be served to achieve the original percentage targets. Further, the project cost escalations during the total Decade period was also considered at the mid-Decade review. The higher costs have also effected the population coverage, as originally planned.
4. It is estimated that the funds required to meet these population coverage shortfalls is of the order of NR 2 255 million (or presently equivalent to US\$ 112 million). The External Aid component of this would be in the order of US\$ 90 million.

1.2 Policies

The policies being followed by HMG to achieve the above objectives are as follows:

1. People's participation to the maximum extent (and women in particular) in all aspects of planning for, providing and maintaining water supply systems and sanitation facilities.

2. Self-reliance of the beneficiaries to the maximum extent in providing for, operating and maintaining water supply systems and sanitation facilities.
3. Self-reliance of HMG's supporting agencies to the maximum extent in providing for, operating and maintaining water supply systems and sanitation facilities.
4. Use of appropriate technology in selecting, installing and maintaining water supply systems and sanitation facilities (to reduce costs and complexity and lengthen the life of the system facility).
5. Protection of the environment in installing, operating and maintaining water supply system and sanitation facilities.
6. Active promotion of the benefits of sanitation facilities and a safe water supply (to increase acceptance by the people).
7. Water as a national resource, with priority for its utilisation determined by HMG taking into consideration both the needs of the people and national development goals and strategies.
8. Uniform procedures for the beneficiaries, political authorities, NGO's and HMG supporting agencies for planning, siting, financing, installing, operating, maintaining and monitoring each of the various categories of water supply systems and sanitation facilities. (Categories being defined by number of people covered, by type of water system and sanitation facility, and by cost of installation and maintenance).

2. INSTITUTIONS & RESPONSIBILITIES

2.1 Planning, Design, Implementation and Operation

Ministry of Water Resources

- (i) Water Supply and Sewerage Corporation (WSSC)
 - Water and Sanitation in urban centres.
- (ii) Department of Water Supply and Sewerage (DWSS)
 - Piped rural water supply and sanitation in communities with population over 1500*; hence fully responsible for national level projects and partly for district level projects.
 - Shallow tube wells and sanitation in the Terai areas of Central, Mid and Far Western Development Regions.
 - Some national level urban water supply schemes not handed over as yet to WSSC.

* During the Seventh Plan this figure will be increased to 3000.

Ministry of Panchayat and Local Development (MPLD)

- Rural piped water supply and sanitation in all communities with population less than 1500*, hence fully responsible for planning and resource estimates.
- Shallow tube wells and sanitation in the Terai areas of the Eastern and Western Development Regions.

People/Users

Cooperating with the Water Users Committees, payment of water and sewerage rates in urban schemes; voluntary labor and local material for construction of rural schemes, operation and maintenance of rural schemes.

National Planning Commission (NPC)

Ensure harmony between WSS Sector annual and periodic plans and programmes with overall objectives and essential elements of Five Year National Plans.

Ministry of Health (MOH)

Role in planning and support through the Environmental Sanitation Section (ESS) and the Health Education Section (HES).

2.2 Funding

Ministry of Finance

- Sanction capital out-lay requirements for annual and periodic plans
- Realign annual plans with annual national budget.

2.3 Decade Coordination

National Group (National Action Committee)

- Members from DWSS, WSSC, MPLD, MOH, NPC and MOF.
- DWSS focal point for Decade activities.

2.4 Linkage with PHC (Primary Health Care)

- Provision of drinking water supply has been included as one of the essential elements of basic minimum needs in the national strategies for HFA (Health For All)
- The water supply and sanitation sector is represented on the National Steering Committee for HFA.
- Health sector supports the water supply and sanitation sector agencies in maximising the health benefits of water supply and sanitation projects.

* During the Seventh Plan this figure will be increased to 3000.

3. PROGRAMMES & POPULATION COVERAGE

1. The population figures & growth of rates used in preparing the 1980 Decade Plan have been revised in the light of the 1981 Census. As a result more people than originally estimated will have to be provided with water supply & sanitation services to meet the percentage targets of the Decade Plan. Details are provided in Annex 1.
2. Details of the overall population coverage status, as originally envisaged in the 1980 Decade Plan and as assessed/projected in a mid-Decade review, are shown at Annex 2. The tabulation includes the pre-Decade coverage, in addition to the Decade coverage. A summary is as follows:

(Population in thousand)

	Original Plan		Mid-Decade review/projection	
	Total Popln. by 1990	Served Popln. by 1990	Total Popln. by 1990	Served Popln. by 1990
Water Supply				
Rural	16 373	10 757(67%)	17 159	8 946(52.1%)
Urban	1 217	1 147(94%)	1 864	1 288(69.1%)
Total	17 590	11 904(68%)	19 023	10 234(53.8%)
Sanitation				
Rural	16 373	2 145(13.1%)	17 159	212(1.2%)
Urban-on-site			1 864	65
-sewerage	988	214(21.7%)		297
Total	17 361	2 359(13.4%)	19 023	574(3.0%)

3. The projects, population coverage, achievements, proposals referred to, at Annexes 2 & 3 are those of HMG Agencies and do not include achievements of Non-Governmental Organisations or by private resources.

4. Additional details of the original Decade Plan and the achievements during Sixth Plan, projected achievements during Seventh Plan are shown in Annex 3. A summary is as follows:

	Original Decade Plan		Mid-Decade Review Projection	
	Project	Popln. (000)	Project	Popln. (000)
<u>Rural Water Supply</u>				
DWSS - piped	830	2022.0	408	} 4776.7
- shallow tubewell	17 250	3449.4	15 494	
		5468.4		
MPLD - piped	1 436	1635.3		} 3364.5
- shallow tubewell	14 540	2792.0	1 193	
		4427.3		
TOTAL		9895.7		8141.2
<u>Urban Water Supply</u>				
DWSS		115.0		94.0
WSSC		432.6		507.0
TOTAL		547.6		601.0
<u>Rural Sanitation</u>				
DWSS - household	179 000	1072	2 385	18.7
- schools	11 250			
MPLD - household	179 000	1073	32 180	193.3
- schools	11 250			
TOTAL - household	358 000	2145		212.0
-	22 500			
<u>Urban Sanitation</u>				
DWSS		-		65.6
WSSC		167.4		150.7
TOTAL		167.4		216.3

4. FUNDING

4.1 Funding Process

1. The funds required for the implementation of Nepal Decade Plan are earmarked in the Sixth (1980-1985) and Seventh (1985-1990) Five Year National Development Plans. The annual allocation will be subject to the availability of funds secured through external and IMG resources. The sector agencies prepare their plans and budgets and submit them to the National Planning Commission and the Ministry of Finance. After finalization of the plans, the Ministry of Finance sanctions the budget and releases funds to the sector agencies on a trimestral basis. The Ministry of Finance has the role of providing resources for projects and programmes. The different programmes are funded in the following fashion:
 - (i) **Urban Water Supply and Sewerage** : The funds for construction are provided by the Government; capital and running costs are recovered through tariffs for house connections.
 - (ii) **Rural Water Supply** : All capital outlays are provided by the Government as grants to the rural communities who are responsible for operation and maintenance.
 - (iii) **Low-Cost Sanitation**: Subsidy in the form of selected materials is provided by the Government for completion of the latrines by users.
2. The Decentralization Act, which transfers the decision making and funding process from the Centre to the District level, became effective from the beginning of the 1985-1986 Nepali fiscal year. Under this Act, there are two types of projects; 'national level' and 'district level'. For example, urban and very large rural water supply schemes as well as sewerage schemes are considered 'national level' projects, while small size rural water supply systems are classified as 'district level' projects.
3. For national level projects the process remains the same as described in para 1 above. However, district level water supply and sanitation projects are now included in the district development plan and are funded through annual district development funds. Under the Decentralization Act, each district with the help of the line agencies is responsible to prepare the annual and periodic district plans. The annual

district development plan is financed partly through development grants provided by the Government and partly from funds raised through local contribution and other means at the district itself. The line Agency with the guidance of the District Panchayat has the authority and responsibility for the execution and financial management of projects.

4.2 Overall Funding Status

- When the 1980 Decade Plan was prepared the costs of achieving the targets were estimated as NR 2 860 million. At mid-Decade, following the completion of Sixth Plan, estimates were reviewed on 1985 prices and projected cost escalations. The total costs are now estimated as NR 4 599 million. Details are shown in Annex 4. The details of the national expenditure during the Sixth Plan and the known resources available for the Seventh Plan, amount to NR 2 343 million. Details are shown in Annex 5. A summary of the overall position is as follows:

	Original Plan		Mid-Decade
	1980 costs	Up-dated costs	Review/Projection
<u>Rural Water Supply</u>			
DWSS - piped	1 016 602	1 886 805	1 047 697
- shallow tubewell	59 512	86 250	75 119
MPLD - piped	487 795	811 270	363 020
- shallow t-bewell	48 161	69 700	18 254
<u>Rural Sanitation</u>			
DWSS	89 370	147 296	3 013
MPLD	89 370	147 296	12 858
<u>Urban Water Supply</u>			
DWSS	57 500	86 252	132 657
WSSC	1 011 670	1 364 000	609 894
<u>Urban Sanitation</u>			
DWSS			10 009
WSSC (sewerage)	(included with water supply)		44 287
<u>Others</u>			
DWSS	-	-	27 368
GROSS TOTAL	2 859 980	4 598 869	2 343 176
<u>Summary</u>			
DWSS	1 222 984	2 206 603	1 295 863
MPLD	625 326	1 028 266	393 132
WSSC	1 011 670	1 364 000	654 181
	2 859 980	4 598 869	2 343 176

2. The above figures indicate that there will be a shortfall of approx NR 2255 million (presently equivalent to US\$ 112 million) in the resources available to HMG for meeting the Decade targets.

4.3 External Funding

1. The details of external aid, known as of July 1985, are summarised in Annex 6 with details in Annex 7. Of the total of \$ 83.2 million, the figures indicate that \$ 43.7 million has been expended up to the end of the Sixth Plan, with a balance of approx us\$ 39.5 million for the Seventh Plan. This sum of \$ 39.5 million has been included in the known resources for the Seventh Plan and the shortfalls indicated are over and above this amount.
2. Apart from the provision of financial support to the Sector, a number of multilateral & bilateral Agencies are also making project staff available. The number of such staff varies from time to time, and is currently estimated to be in the order of 100 persons.
3. In addition to the Agencies noted in Annexes 6 & 7, a number of Non-Governmental Organisations are also active in the Sector. A list of some of these Agencies is shown in Annex 8.

4.4 Internal Funding

1. During the 6th Plan it is estimated that some 53% of the sector's funding requirements came from internal resources, derived from budget allocations by HMG and from contributions by the users communities.
2. In the rural water supply sub-sector, projects executed by MPLD are supported to the extent of 15-20% of construction costs by the voluntary labour and supply of local materials by beneficiaries. The Decentralisation Act provides for formation of Users Committees, with responsibility for operation and maintenance.
3. In the urban water sub-sector both WSSC and DWSS impose water charges, details of which are provided in Annex 9. Revenue from these charges is retained by WSSC and credited to general revenue in the case of DWSS. It can be noted from Annex 10 that the revenues collected are insufficient to cover actual costs. WSSC levies a sewerage surcharge of 25% on water bills for those customers connected to the sewerage system.

5. SECTOR DEVELOPMENT REQUIRED FOR HEALTH FOR ALL BY THE YEAR 2000

The development of Water Supply & Sanitation services will continue beyond 1990 (the end of the International Drinking Water Supply & Sanitation Decade) as HMG is committed to the target of Health For All by the Year 2000. At an inter-sectoral planning meeting held in March 1981, targets were set for the water supply & sanitation sector, to meet the basic minimum needs of the people by 2000. The targets & the required population coverages to be achieved during the Eighth Plan (1990-91 to 1994-95) and the Ninth Plan (1995-96 to 1999/2000) are noted in Annex 11 and are summarised below.

	Population Coverage required (000)			% Coverage (Targets)
	Shortfall during Seventh Plan	During Eighth Plan	During Ninth Plan	
Rural Water Supply	2 554	3 680	4 120	90%
Urban Water Supply	462	840	1 270	100%
Rural Sanitation	2 018	2 480	2 760	35%
Urban Sanitation		2 255	1 270	100%
School Sanitation				All Schools

6. CONCLUSION

1. The resources obtained during the 6th Plan to meet the sector targets (set in 1980) proved to be insufficient. As of 1985, the resources available for the 7th Plan, including confirmed external resources, would also be inadequate to meet the set targets.
2. As HMG's resources are limited, there is a need for the external support community to assist in meeting the HMG Decade targets through provision of increased funds.
3. Information regarding the extent of support required is provided in the accompanying project data sheets.

More details on the projects would be available from the following officials:

<u>Agency</u>	<u>Official</u>
1. Department of Water Supply & Sewerage, Panipokhari, Maharajgunj, Kathmandu.	Chief Engineer
2. Ministry of Panchayat & Local Development, Pulchowk, Lalitpur.	Joint Secretary
3. Water Supply & Sewerage Corporation, Tripureswor, Kathmandu.	General Manager
4. Department of Health Services, Teku, Kathmandu	Chief, Environmental Sanitation Section

NATIONAL POPULATION - PROJECTIONS

The following population figures differ from those used in the 1980 Decade Plan, as they have been reviewed in the light of the 1981 Census.

	Growth Rate	POPULATION (000)			
		1980	1981(Census)	1985	1990
TOTAL	2.66%	14 620(100%)	15 020(100%)	16 680	19 023
URBAN	as below	898(6.1%)	957(6.4%)	1 350(8.1%)	1 864(9.8%)
RURAL	(balance)	13 722(93.9%)	14 063(93.6%)	15 330(91.9%)	17 159(90.2%)

Urban Population Details

1. The populations shown are for the whole Nagar Panchayat which includes the urban centres.
2. Growth rates and 1981 population for 23 Nagar Panchayats are from "Water Supply & Sewerage Studies, Nepal - Vol.IV" of UNDP/World Bank Project NEP/79/032.
3. Growth rates and 1981 population of other Six Towns shown with * are estimates.
4. The 1980 urban population includes only 23 Towns while the 1985 & 1990 population includes the six additional Towns, which were developments after 1981.

		Growth Rate	Nagar Panchayat Population (000)			
			1981-91	1980	1981	1985
Far West - Hills	1. Dipayal *	4%	9.5	10	11.7	14.2
	- Terai					
	2. Dhangadi	4%	25	26	30.4	37
Mid West - Hills	3. Mahendranagar	4%	40.3	42	49	60
	- Terai					
	4. Birendranagar	8%	13	14	19	28
West - Hills	5. Nepalgunj	4%	32.6	34	39.7	48.4
	- Terai					
	6. Tribhuvannagar	7%	17.7	19	24.9	35
West - Hills	7. Pokhara	7%	44.7	48	63	88.2
	- Terai					
	8. Tansen	7%	11.2	12	15.7	22
Central - Hills	9. Bhairawa	8%	28.2	30	40.8	60
	- Terai					
	10. Butwal	8%	21.2	23	31.3	46
Central - Hills	11. Taulihawa *	7%	13	14	18.3	25.7
	- Hills					
	12. Kathmandu	4.6%	224	235	281	352
Central - Hills	13. Lalitpur	3.2%	78.4	81	92	107.5
	- Hills					
	14. Bhaktapur	2.3%	49	50	54.7	61.3
Central - Hills	15. Hetauda	8%	29.5	32	43.5	64
	- Hills					
	16. Bharatpur	6%	25.4	27	34	45.6
Central - Hills	17. Banepa *	4%	10.6	11	12.8	15.6
	- Terai					
	18. Birgunj	14%	39.6	46	17.7	149.5
Central - Hills	19. Janakpur	10%	31.5	35	51.2	82.5
	- Hills					
	20. Jaleswar *	6%	18.8	20	25.2	33.8
Central - Hills	21. Kalaiya *	6%	15	16	20.2	27.0
	- Hills					
	22. Dhankuta	4%	12.5	13	15.2	18.5
Central - Hills	23. Ilam	4%	8.7	9	10.5	12.8
	- Terai					
	24. Biratnagar	8%	86.5	94	128	188
Central - Hills	25. Dharan	8%	39.6	43	58.5	86
	- Hills					
	26. Rajbiraj	8%	14.7	16	21.7	32
Central - Hills	27. Bhadrapur	8%	13.8	15	20.4	30
	- Hills					
	28. Lahan	12%	11.5	13	20.4	36
Central - Hills	29. Damak *	8%	26.7	29	39.5	58
	- Hills					
Total - 23 Towns			898.6	957	1222.6	1690.3
- 6 Towns			-	-	127.7	174.3
TOTAL			898.6	957	1350.3	1864.6



POPULATION COVERAGE - OVERALL SITUATION

Population (000)

	Original Plan					Mid-Decade Projection				
	End Fifth Plan	Sixth Plan	End Sixth Plan	Seventh Plan	End Seventh Plan	End Fifth Plan	Sixth Plan	End Sixth Plan	Seventh Plan	End Seventh Plan
Total population - rural	13 149		14 663	16 373	16 373	13 722		15 330		17 159
- urban	860.7		1024.5		1217.4	898		1 350		1 864
Served Population										
RURAL WATER SUPPLY										
DWSS		1474.3		3994.1		310.7	1191.0	1501.7	3585.7	5067.4
MPLD		1406.1		3021.2		494.3	1787.8	2282.7	1576.7	3858.8
Total	862 (7%)	2880.4 (25.5%)	3742.4	7015.7	10757.7 (67%)	805.0 (5.9%)	2978.8	3783.3 (24.7%)	5162.4	8946.2 (52.1%)
RURAL SANITATION										
DWSS - household	-	220	-	852	-	-	6.7	6.7	12.0	18.7
- school	-	-	-	-	-	-	-	-	-	-
MPLD - household	-	220	-	853	-	-	19.3	19.3	174.0	193.3
- school	-	-	-	-	-	-	-	-	-	-
Total		440	440 (3%)	1705	2145 (13.1%)			26.0		212.0 (1.2%)
URBAN WATER SUPPLY										
DWSS	105.5	50.3	155.8	65.5	221.3	61	56	117	38	155
WSSC	608.9	146.6	755.5	170.2	925.7	626	207	833	300	1133
Total	714.4 (83%)	196.9	911.3 (89%)	235.7	1147.0 (95.6%)	687 (76.7%)	263	950 (70.4%)	338	1288 (69%)
URBAN SANITATION										
DWSS	-	-	-	-	-	-	13.6	13.6	52.0	65.6
WSSC	47	41.7	89.0	125.7	214.7	146.3	71.7 85.3	218.0 231.0	79.0 131.0	297.0 362.6
Total	(5.4%)		(8.7%)		(17.6%)	(16.3%)		(17.2%)		(19.5%)

ANNEX 2

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PROJECTS & POPULATION COVERAGE - ORIGINAL PLAN & MID-DECADE PROJECTION

(Population in thousands)

	ORIGINAL PLAN						MID-DECADE PROJECTION					
	Total		Sixth Plan		Seventh Plan		Total		Sixth Plan		Seventh Plan	
	Projects	Popln. Served	Projects	Popln. Served	Projects	Popln. Served	Projects	Popln. Served	Projects	Popln. Served	Projects	Popln. Served
<u>Rural Water Supply</u>												
DWSS - piped	830	1834.1	175	386.4	655	1444.7	408	4776.7	103	1191.0	305	3585.7
- deep tubewell		187.9		87.9		100.0						
- shallow tubewell	17 250	3449.4	5 000	1000.0	12 250	2449.4	15 494		3 494		12 000	
Total		5468.4		1474.3		3994.1						
MPLD - piped	1 436	1635.3	500	568.1	936	1067.2	6 511	3364.5	4 026	1787.8		1576.7
- shallow tubewell	14 540	2792.0	4 190	838.0	9 770	1954.0	1 014				393	
Total		4427.3		1406.1		3021.2						
TOTAL		9895.7		2880.4		7015.3		8141.2		2978.8		5162.4
<u>Rural Sanitation</u>												
DWSS - household	179 000	1072	36 000	220	143 000	852	2 335	18.7	835	6.7	150	12.0
- school	11 250		2 250		9 000		-	-	-	-	-	-
MPLD - household	179 000	1073	36 000	220	143 000	853	32 180	193.3	3 180	19.3	29 000	174.0
- school	11 250		2 250		9 000		-	-	-	-	-	-
TOTAL household	358 000	2145	72 000	440	286 000	1705		212.0		26.0		189.0
<u>Urban Water Supply</u>												
DWSS		115.8		50.3		65.5		94.0		56.0		38.0
WSSC		316.8		146.6		170.2		507.0		207.0		300.0
TOTAL		432.6		196.9		235.7		601.0		263.0		338.0
<u>Urban Sanitation</u>												
DWSS	-	-	-	-	-	-	6 560	65.6	1 360	13.6	5 200	52.0
WSSC		167.4		41.7		125.7		150.7		79.7		79.0
TOTAL								216.3		85.3		131.0

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ANNEX 3



COSTS - ORIGINAL DECADE PLAN WITH ORIGINAL AND UPDATED COSTS

	SIXTH PLAN						SEVENTH PLAN					
			Cost Estimate				Cost Estimate					
			Original		Up-dated		Original		Up-dated			
	Systems	Design Popln	Rate	Amount (000)	Rate	Amount (000)	Systems	Design Popln.	Rate	Amount (000)	Rate	Amount (000)
Rural Water Supply												
DWSS Piped - Hills	31	2 678	350/-	33 419	950/-	78 867	118	2 678	350/-	127 190	950/-	300 203
- Midlands	144	2 923	350/-	169 418	700/-	294 638	537	2 923	350/-	631 787	700/-	1 098 755
- Deep tubewells		90 570	250/-	26 038	600/-	54 342		100 000	250/-	28 750	600/-	60 000
Total				228 875		427 847				787 727		1 458 958
Shallow tubewells		1.0 m	15/-	17 250	25/-	25 000		2.45 m	15/-	42 262	25/-	61 250
				246 125		452 847				829 989		1 520 208
MPLD												
Piped - Hills	137	1 179	200/-	37 145	500/-	80 761	253	1 179	200/-	68 609	500/-	149 143
- Midlands	363	1 588	200/-	132 583	350/-	201 755	683	1 588	200/-	249 458	350/-	379 611
Total				169 728		282 516				318 067		528 754
Shallow tubewells		838 000	15/-	14 455	25/-	20 950		1.95 m	15/-	33 706	25/-	48 750
				184 183		303 466				351 773		577 504
Rural Sanitation												
DWSS - household	36 000			13 020		16 275				50 475		88 330
- school	2 250			5 175		6 470				20 700		36 225
				18 195		22 745				71 175		124 555
MPLD - household	36 000			13 020		16 275				50 475		88 330
- school	2 250			5 175		6 470				20 700		36 225
				18 195		22 745				71 175		124 555
Urban Water Supply												
DWSS - (Rs 5.0 m/year)				28 750	(a)	35 940				28 750	(a)	50 312
WSSC				511 670	(b)	614 000				500 000	(b)	750 000
Urban Sanitation												
DWSS				Nil								
WSSC				Included in urban water supply estimate								

Note: (a) updated on annual increase of 12%.
 (b) updated on annual increase of 10%.
 (c) amounts in original estimates and the rates, amounts in updated estimate include 15% engineering costs.



BUDGETS - SIXTH & SEVENTH PLANS

- a) Includes external assistance.
b) WSSC amounts exclude proposed Fourth Project.

1. SIXTH PLAN - Annual allocation/expenditures (000)

	Total	1980-81	1981-82	1982-83	1983-84	1984-85
DWSS	449 463	20 721	56 514	113 337	121 777	131 114
MPLD	203 132	20 989	34 399	48 968	31 572	47 092
WSSC	404 181	41 110	72 800	101 581	80 300	108 392
	1 056 776					

(Amounts in NR thousands)

	TOTAL	SIXTH PLAN	SEVENTH PLAN
DWSS			
a) Rural Water Supply			
i) piped - gravity	901 294	300 894	600 400
- deep tubewell	53 000	3 000	50 000
- community built	15 076	8 076	7 000
- improvements, extensions	36 000	25 000	11 000
- studies	19 897	11 897	8 000
- Divisional Offices	22 430	10 430	12 000
Sub-total a(i)	1 047 697	359 297	688 400
ii) Shallow tubewell	75 119	15 119	60 000
b) Rural Sanitation	3 013	013	3 000
c) Urban Water Supply			
- piped, gravity	57 000	45 000	12 000
- deep tubewell	64 205	4 205	60 000
- improvements, extensions	11 452	9 452	2 000
Sub-total (c)	132 657	58 657	74 000
d) Urban Sanitation	10 009	3 009	7 000
e) Others			
- surface drainage	20 364	10 364	10 000
- manpower training	3 396	1 396	2 000
- laboratory	3 608	1 608	2 000
Sub-total (e)	27 368	13 368	14 000
TOTAL	1 295 863	449 463	846 400
MPLD			
a) Rural Water Supply			
i) piped	362 020	192 020	170 000
ii) shallow tubewell	18 254	8 254	10 000
b) Rural Sanitation	12 858	2 858	10 000
TOTAL	393 132	203 132	190 000
WSSC			
a) Urban Water Supply	609 894	383 894	226 000
b) Urban Sanitation/Sewerage	44 287	20 287	24 000
TOTAL	654 181	404 181	250 000
GROSS TOTAL	2 343 176	1 056 776	1 286 400



EXTERNAL AID TO SECTOR AGENCIES

(Confirmed as of August 1985)

Activity Code: 'A = Technical collaboration. B = Studies. C = Project - Construction. D = Project - Manpower Dev.

- Note: 1. Amounts shown with * are Loans; others are Grants.
 2. Agencies at item 3.1 are assisting through Integrated Rural Development.
 3. Amount at (a) based on £ 1.00 = US\$ 1.30; (b) includes Fifth Plan.

Sector Agency	Aid Agency	Total Period	Amounts (000)			Activity				Comments
			Total Amount	Sixth Plan Period	Seventh Plan Period	Rural		Urban		
						Water	Sanit	Water	Sanit	
1. All Agencies	1.1 WHO	1980-87	\$ 1 550	\$ 1 000	\$ 550	A	A	A	A	Sector Study - part item 4.5
	1.2 UNDP	1983-86	\$ 669	\$ 514	\$ 150	D	D	D	D	
	1.3 UNDP	1985				B	B	B	B	
2. DWSS	2.1 AsDB	1983	\$ 150	\$ 150	-	B		B		Far & Mid Western Reg. Far & Mid Western Reg. Institutional Dev. Eastern Region.
	2.2 AsDB	1985-89	\$ 9 600*		\$ 9 600	C				
	2.3 AsDB	1985-86	\$ 200		\$ 200	A	A	A	A	
	2.4 UK/ODA	1984-88	(£ 3 870)	(£ 100)	(£ 3 770)	C				Shallow Tubewells-Terai. Gorkha District.
			\$ 5 030(a)	\$ 130	\$ 4 900					
	2.5 UNICEF	1983-85	\$ 506	\$ 506	-	C	C			
	2.6 USAID	1983-85	\$ 500	\$ 500	-	C				
2.7 UNCHS	1985-86	\$ 99		\$ 99				A		
3. MPLD	3.1 UK/ODA; USAID; FRG; CANADA; EEC; AsDB; W/BANK	1975-88	\$14 246	\$ 4 546	\$ 9 700	C				
	3.2 UNICEF; SATA; UNCDF					ACD				
4. WSSC	4.1 IDA	1975-84	\$10 500(b)	\$ 2 700	-			C	C	First Project. Second Project. Second Project. Third Project. For proposed Fourth Project. Bhaktapur Dev. Board
	4.2 IDA	1978-86	\$ 7 500(b)	\$ 6 200	\$ 800			C	C	
	4.3 EEC	1979-84	\$ 3 000*	\$ 3 000	-			C	C	
	4.4 IDA	1980-86	\$27 000*	\$14 000	\$13 000			C	C	
	4.5 UNDP	1983-85	\$ 650	\$ 650				B	B	
	4.6 FRG/GTZ	1974-86	\$ 2 000(b)	\$ 1 000	\$ 500			C	C	
TOTAL			\$83 200	\$34 896	\$39 499					



AREA/EXTERNAL AGENCY - PROJECT - MATRIX

Development Region	Agency	Project		Ongoing Projects, Basic Data In 1980-90 Period					Project Component							
		Name	Type	Donor	Estimated Total Cost (in 000) US\$	Donor's Contribution in 000) US\$	Population benefit in 1000 people	Date of Commencement Year	Expected Date for Completion	Water Supply	Sanitation	Survey, Design, Construction Institutional Development	Training	Community Education Participation	Operation & Maint.	Others
URBAN WATER SUPPLY & SANITATION																
13	WSSC	IDA Financed Project Phase I	Coverage	W.B. EEC	15 300	11 800	-	1974	1977	x	x	x				
	"	IDA Financed Project Phase II	"	W.B.	11 300	8 000	-	1977	1983	x	x	x				
	"	IDA Financed Project III	"	W.B.	33 330	27 000	146	1980	1986	x	x	x				
	"	Feasibility Studies for 20 Towns, 4th Project Preparation*	Feasibility	UNDP		650		1983	1985	x	x	x	x	x		
Kathmandu	WSSC & MPLD	Bhaktapur Development	Coverage	FRG	3 000	2 000	52	1974	1986	x	x	x	x	x	x	x
RURAL WATER SUPPLY & SANITATION																
Eastern	MPLD	Noted Project (B)*	Coverage	UNICEF	3 372	2 300	100	1981	1986	x	x	x	x	x	x	x
	"	KHARDEP (IRDP)	"	ODA		200		1980		x		x				
	"	Sagarmatha (IRDP)	"	ADB	1 666		3.5	1981	1985	x		x				
	"	Shallow Tube-well	"	UNICEF	325.7	252.9**	160	1983	1987	x	x	x	x	x	x	x
	DWSS	16 Town Water Supply*	Coverage	ODA	£ 3 870	£ 3 870	60	1984	1988	x	x	x	x	x	x	x
* Large Scale Project																
** Includes UNICEF inputs for shallow tubewell in all Development Regions.																



AREA/EXTERNAL AGENCY - PROJECT - MATRIX

Development Region	Agency	Project		Ongoing Projects, Basic Data						Project Component						
		Name	Type	Donor	Estimated Total Cost (in 000) US\$	Donor's Contribution in (000) US\$	Population benefit in 1000 people	Date of Commencement Year	Expected Date for Completion	Water Supply	Sanitation	Survey, Design Construction Institutional Development	Training	Community Education Participation.	Operation & Maint.	Others
Central	MPLD	Noted Project (G)*	Coverage	UNICEF	3,694	2 514	100	1983	1987	x	x	x	x	x	x	x
	"	Rasuwa & Nuwakot*	"	W.B.	2 358	1 000	3	1980	1984	x		x		x		
	"	IHDP (IRDP)	"	SWISS	6 475	416	7	1975	1985	x		x			x	x
	"	Dhading District (IRDP)	"	FRG	666	666	15		1985	x		x			x	
	DWSS	Shallow Tubewell (PILOT)	"	UNICEF	1 000	749.5	325	1983	1986	x	x	x	x	x	x	x
MPLD	Dhulikhel	"	FRG	20	20	.2		1985	x	x						
Western	MPLD	Noted Project (A)*	Coverage	UNICEF/ SATA*	4 662	2.549**	80	1982	1986	x	x	x	x	x	x	x
	"	RCUP	"	USAID	491	442	17	1980	1985	x		x		x		x
	"	Shallow Tubewell (PILOT)	"	UNICEF***				1983	1985	x	x	x	x	x	x	x
	DWSS	RCUP	"	USAID	500	500		1983	1985	x		x		x		x
		<p>* Large Scale Project</p> <p>** Does not include technical assistance provided by SATA</p> <p>*** Include in Eastern Region Programme</p>														

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AREA/EXTERNAL AGENCY - PROJECT - MATRIX

Development Region	Agency	Project		Ongoing Projects, Basic Data						In 1980-90 Period		Project Component							
		Name	Type	Donor	Estimated Total Cost (in 000 US\$)	Donor's Contribution in (000) US\$	Population benefit in 1000 people	Date of Commencement Year	Expected Date for Completion	Water Supply	Sanitation	Survey, Design Construction	Institutional Development	Training	Community Education	Participation	Operation & Maint.	Others	
Mid Western & Far Western	MPLD	Noted Project (C,D & E)	Coverage	UNICEF	3 301	2 198	100	1981	1986	x	x	x	x	x	x	x	x		
	"	Rapti (IRDP)	"	USAID		1 000	1.3	1979	1985	x		x							
	"	Karnali (IRDP)	"	CIDA	833		.1	1982		x		x							
	"	Mahakali (IRDP)	"	W.B./ UNDP	733	200	6	1979	1985	x	x	x	x	x	x	x	x		
Western	DWSS	ADB-assisted Rural Water Supply Project*	"	ADB	12 000	9 600	971	1985	1989	x		x	x	x	x	x			
CENTRALLY BASED PROJECTS																			
Kathmandu	DWSS & MPLD	Community Water Supply & Sanitation NEP CWS 001	Technical Support	WHO		1 550		1980	1987	x	x	x	x	x	x	x			
	MPLD & DWSS	Decade Manpower Training NEP/80/032	HRD	UNDP/WHO		669.2		1981	1987				x	x					
	DWSS	8-Town Low-Cost Sanitation	Pilot/DEM	UNDP/W.B.	99	99		1980	1983		x	x							
	* W.B. FRG ODA	Large Scale Project World Bank Federal Republic of Germany British Government (Overseas Development Agency)																	
		Note: MPLD figures were available in Nepalese currency. They have been converted in dollars at the 1980 rate of Rs 12 = \$ 1.																	

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LIST OF NGO

1. Lutheran World Service
2. Unitarian Services Committee, Canada
3. Action Aid Nepal
4. Community Progress, Nepal
5. Save the Children's Federation, USA
6. Foster Parents Plan International
7. Kadoorie Foundation
8. British Gurkha Welfare Board
9. Indian Gurkha Welfare Board
10. Water Aid (British)
11. Japanese Red Cross
12. United Mission to Nepal
13. Inter/Church Co-ordination Committee for
Development Project
14. CARE
15. S.O.S. Children Village



CHARGES - WSSC & DWSS

Water Rates charged by WSSC for unmetered connection

Pipe Size (inch)	Main Line (Rs./month)	Additional branch (Rs./month)
1/2	13	4
3/4	45	9
1	90	10
1 1/2	270	45
2	450	75
3	1350	50
4	2800	354

Water Rates charged by WSSC for metered connection

Pipe Size (inch)	Minimum Rate (Rs./month)	Maximum Rate Cubic meter/ month
1/2	7	10
3/4	28	27
1	56	50
1 1/2	168	140
2	280	235
3	840	700
4	1680	1400

Source: WSSC

Connection charges charged by WSSC

Pipe Size (inch)	Upto 100 ft. (Rs.)	Excess of 100 ft. (Rs. per each additional ft)
1/2	100	0.75
3/4	200	1.00
1	400	2.00
1 1/2	600	3.00
2	800	4.00
3	1200	6.00
4	1600	8.00

Source: WSSC

The Tariff rates charged by DWSS

Pipe Size (inch)	First Pipe (Rs.)	Subsidiary Pipe (Rs.)
1/2	5	3
3/4	30	6
1	60	12
1 1/2	170	30
2	340	50
3	930	100
4	1930	235

Source: DWSS

DWSS Revenue and Expenditure (Regular) for Water Supply
in 6th Five Year Plan (1980/81 - 1984/85)

Fiscal Year	Revenue	Expenditure (Regular)
1980/81	600,000	3,100,000
1981/82	500,000	3,900,000
1982/83	600,000	6,400,000
1983/84	800,000	6,000,000
1984/85	2,000,000	9,700,000
Total	4,500,000	29,100,000

Source: Ministry of Finance, Economic Survey 1984/85,
HMG/N, 1985.

WSSC Income and Expenditure in
Water Supply and Sanitation

(in million)

Year	Income	Expenditure
1980/81	8.44	9.03
1981/82	13.67	13.12 ^{1/}
1982/83	19.96	38.13 ^{1/}
1983/84	19.12	37.19
1984/85	20.77	47.20
1985/86	23.75	50.15

Source: WSSC, 1985

^{1/} Depreciation was also added from this year so
expenditure is higher than income.



WATER SUPPLY & SANITATION - HFA 2000 COVERAGE PROJECTION

- Note: 1. Decade/HFA Plan - figures based on the following documents a) Decade Plan, 1980
 b) Plan for meeting the Basic Minimum needs of the People 1980-2000,
 (Inter-Sectoral Planning of HFA 2000) March 1981.
 2. Review 1985 - figures based on "Joint Review Group" report August 1985.
 3. Improvements - relates to facilities over 10 years old.

(All Population in thousand)

	DECADE PLAN				HFA PLAN			
	FIFTH PLAN	SIXTH PLAN	SEVENTH PLAN		EIGHTH PLAN		NINTH PLAN	
	End of Plan	End of Plan	During Plan	End of Plan	During Plan	End of Plan	During Plan	End of Plan
WATER SUPPLY - RURAL								
Decade/HFA Plan - total popln.	13 149	14 663		16 373		19 408		21 973
- served popln.	863(6.6%)	3 863(26%)		11 034(67%)		15 136(78%)		19 775(90%)
Review 1985/ - total popln.	13 722	15 330		17 159		19 460		21 450
Achieved - served popln.	805(5.9%)	3 784(24.7%)	5 162	8 946(52%)				
Required								
a) Decade Plan shortfall-served popln.			2 554	11 500(67%)				
b) HFA Plan -served popln.					3 680	15 180(78%)	4 120	19 300(90%)
c) Improvements -served popln.					790		2 290	
WATER SUPPLY - URBAN								
Decade/HFA Plan - total popln.	861	1 024		1 217		1 468		1 616
- served popln.	714(83%)	911(89%)		1 147(94%)		1 468(100%)		1 616(100%)
Review 1985/ - total popln.	898	1 350		1 864		2 590		3 860
Achieved - served popln.	687(76%)	950(70.4%)	338	1 288(69%)				
Required								
a) Decade Plan shortfall-served popln.			462	1 750(94%)				
b) HFA Plan -served popln.					840	2 590(100%)	1 270	3 860(100%)
c) Improvements -served popln.					700		213	



	DECADE PLAN				HFA PLAN			
	FIFTH PLAN	SIXTH PLAN	SEVENTH PLAN		EIGHTH PLAN		NINTH PLAN	
	End of Plan	End of Plan	During Plan	End of Plan	During Plan	End of Plan	During Plan	End of Plan
SANITATION								
Decade/HFA Plan - total popln.		14 662		16 373		19 408		21 973
- served popln.		440(3%)		2 145(13%)		4 700(24.2%)		7 650(34.8%)
Review 1985/ - total popln.		15 330		17 150		19 460		21 450
Achieved - served popln.		26	186	212(1%)				
Required								
- Decade Plan shortfall-served popln.			2 018	2 230(13%)				
-served popln.					2 480	4 710(24.2%)	2 760	7 470(34.8%)
SANITATION - URBAN								
Decade/HFA Plan - total popln.		1 024		1 217				
- served popln.		89(9%)		214(18%)				
Review 1985/ - total popln.	898	1 350		1 864		2 590		3 860
Achieved - served popln.	146(16%)	231(17%)	131	362(19%)				
Required								
a) Decade Plan shortfall-served popln.				335(18%)				
b) HFA Plan -served popln.					2 255	2 590(100%)	1 270	3 860(100%)
SANITATION - DIST. HQ								
Decade/HFA Plan - total popln.		20		60		120		180
- served popln.		20(100%)		60(100%)		120(100%)		180(100%)
Review 1985/ - total popln.				included in Urban Sanitation				
Achieved				included in Urban Sanitation				
Required								
SANITATION - SCHOOL								
Decade/HFA Plan - total number		1 500	6 000	7 500	10 500	18 000		All
- served		schools	schools	schools	schools	schools		schools
Review 1985/								
Achieved			7 500		10 500		All	
Required			schools		schools		schools	



SUMMARY - PROJECT DATA SHEETS

Project No.	Description	Popln. Served(000)		Costs - US\$ Million		
		W. Supply	Sanitation	Total	Local	External
	<u>RURAL</u>					
	<u>Agency: DWSS</u>					
R/DW1	Rural piped water supplies to 73 communities (Western, Central & Eastern Regions)	400		14.0	2.8	11.2
R/DW2	a) Rural piped water supplies to 21 communities (Western Region) b) Human Resource Development	90		3.65	0.65	3.0
R/DW3	3000 shallow tubewell water supplies in rural Terai (Central Region)	600		1.5	0.5	1.0
R/DW4	Repairs and improvements to old-piped water systems (All Regions)			2.5	0.5	2.0
	<u>Agency: MPLD</u>					
R/MP1	Rural Water Supply & Sanitation in the Midlands of Eastern Region	228	27	7.07	2.99	4.08
R/MP2	Rural Water Supply in the Midlands of Central Region	270		8.50	2.85	5.65
R/MP3	Rural Water Supply & Sanitation in the Hills of Mid-Western Region	177.8	36.3	6.26	2.91	3.35
R/MP4	Rural Water Supply & Sanitation in the Hills of Far Western Region	277.2	43.6	7.83	3.64	4.19
R/MP5	Rural Water Supply & Sanitation in the Terai of Eastern Region (Shallow tubewell)	1164	221.8	4.39	1.55	2.84
R/MP6	Rural Water Supply & Sanitation in the Terai of Western Region (Shallow tubewell)	740.3	100.6	2.00	0.71	1.29
R/MP7	Sanitation in Semi-urban Settlement		40	1.54	0.52	1.02
R/MP8	School Sanitation		250	0.87	0.28	0.59
R/MP9	Ground Water Investigation in Terais			0.24	0.12	0.12
	<u>Agency: Dept. of Health Services (DOH)</u>					
R/DH1	Sanitation in Midlands of the Central Region		507.4	8.36	2.50	5.86

SUMMARY - PROJECT DATA SHEETS

Project No.	Description	Popln. Served(000)		Costs - US\$ Million		
		W. Supply	Sanitation	Total	Local	External
	<u>URBAN</u>					
	<u>Agency: DWSS</u>					
U/DW1	Water Supply to 8 Towns in Terai (Far-Western & Eastern Regions)	153		6.6	1.1	5.5
U/DW2	Low-Cost Sanitation in 8 Towns (All Regions)		200	12.0	5.5	6.5
U/DW3	Preparation of Master Plan for Storm-Water Drainage			2.5	0.75	1.75
	<u>Agency: WSSC</u>					
U/WS1	Water Supply & Sewerage in 4 Towns, Surface Drainage in 2 Towns.	133		15.24	4.55	10.69
U/WS2	Water Supply & Sanitation in 11 Towns.	796		31.62	6.71	24.91

PROJECT DATA SHEET - R/DW 1

Project Title : Rural piped water supplies to 72 communities.

Location : Regions/Districts (no. of projects)

Western Region: Gulmi (5); Arghakhanchi (3); Palpa (4).

Central Region: Sindhupalchok (2); Kabhre (6); Nuwakot (4); Kathmandu (1); Lalitpur (1); Bhaktapur (3); Makwanpur (4); Chitwan (2); Dolakha (2); Ramechhap (5); Sindhuli (1).

Eastern Region: Okhaldhunga (3); Khotang (5); Udayapur (1); Sankhuwasabha (2); Bhojpur (4); Dhankuta (3); Terhathum (1); Taplejung (2); Ilam (5); Jhapa (3).

Objective : To provide safe water conveniently available in adequate quantities for the daily domestic needs of the population served by the above projects.

Description : The water supply would include intake structures, at upland streams protected from pollution, with piped transmission through break pressure tanks as necessary to storage reservoirs, piped distribution of water through conveniently located public taps. House connection will also be provided as paid for by householders.

Cost	Total Cost	Local Cost	External Cost
Piped water systems (72 projects/ 400 000 population)	\$ 14.0 m	\$ 2.8 m	\$ 11.2 m

(Note: These are overall costs including engineering services)

Benefit : The benefits will include the supply of safe water in adequate quantities to some 400 000 people in rural communities.

Executing Agency: Department of Water Supply & Sewerage (DWSS)

Schedule of
Implementation : Commencement : 1987
Completion : 1991

Status : Pre-feasibility studies of these projects have been completed through National Consultants during the early half of the Decade. It is expected that the study reports will be reviewed and up-dated during 1986.

PROJECT DATA SHEET - R/DW 2

Project Title : Piped water systems for 21 rural communities.

Location : Western Region: Kaski, Lamjung, Syangja, Tanahu Districts.

Objective : To provide safe water, conveniently available for the daily domestic needs of 21 rural communities.

Description : The water systems will include intake structures at upland streams protected from pollution; piped transmission through break-pressure tanks as required, to storage reservoirs; piped distribution of water through conveniently located public taps. House connection will also be provided, as paid for by householders.

The Project also includes a component of Human Resource Development for the overall development of the water supply & sanitation programmes.

Cost	Total Cost	Local Cost	External Cost
a) Piped systems for 21 rural communities	\$ 3.15 m	\$ 0.65 m	\$ 2.50 m
b) Agency Human Resources Development	\$ 0.50 m	-	\$ 0.50 m

Benefits : The Project will benefit a rural population of some 90 000 people.

Executing Agency: Department of Water Supply & Sewerage (DWSS)

Schedule of Implementation : Commencement : 1987
Completion : 1990

Status : This Project is based upon a comprehensive proposal prepared in collaboration with the UNDP/WB Regional Asia Project Preparation Unit for the Development of Water Supplies in the Western Region.

The Human Resource Development component is a part of the proposals prepared through a UNDP/WB Project in collaboration with WHO.

PROJECT DATA SHEET - R/DW 3

Project Title : Shallow tubewell water supply to rural Terai.

Location : Central Region: Dhanusha, Mahottari, Sarlahi Districts.

Objective : To provide 3000 shallow tubewells as water supplies to rural communities in the Terai (Plains)

Description : Safe ground water is available at shallow depth in the Southern geographical region - Terai - of the country. Water will be extracted through 40 mm dia tubewells, sunk to about 30 meters and fixed with shallow well hand pumps and completed with masonry platforms and proper drainage. Each tubewell will be located to serve approx 200 people or about 25 households.

The Project will include a component for the training for caretakers and for the education and organisation of the communities in the use and care of the wells.

Cost	Total Cost	Local Cost	External Cost
3000 shallow tube wells complete with hand-pumps, platform, drainage	\$ 1.5 m	\$ 0.5 m	1.0 m

Benefits : This Project will benefit a population of some 600 000 people, with access to safe water at convenient locations.

Executing Agency: Department of Water Supply & Sewerage (DWSS)

Schedule of Implementation : Commencement : 1987
Completion : 1990

Status : This Project is based on studies and draft proposals prepared by UNICEF for a larger project.

PROJECT DATA SHEET - R/DW 4

Project Title : Repairs and improvements to old piped water systems in rural areas.

Location : Regions/Districts (no. of projects)

Far-Western Region

Doti (1); Achham (1); Bajura (1); Dadeldhura (1); Kailali (1).

Mid-Western Region

Pyuthan (2); Jajarkot (1); Dang (1); Salyan (1); Dailekh (1); Bardia (1).

Western Region

Gorkha (2); Kaski (4); Gulmi (4); Lamjung (1); Parbat (2); Tanahun (2); Myagdi (1); Baglung (1); Palpa (1); Nawalparasi (1); Arghakhanchi (1); Syangja (1); Kapilvastu (1).

Central Region

Makwanpur (1); Bara (2); Dolkha (2); Ramechhap (1); Kabhre (10); Lalitpur (1); Sindhuli (1); Bhaktapur (2); Rasuwa (1); Dhading (1); Kathmandu (8); Dhanusha (2); Rautahat (1); Nuwakot (1).

Eastern Region

Dhankuta (2); Bhojpur (2); Okhaldhunga (2); Solokhumbu (1); Taplejung (1); Panchathar (1); Udayapur (1); Khotang (1); Sunsari (1).

Objective : To repair & improve old piped water systems and ensure the continued supply of safe & adequate water to these rural communities.

Description : As necessary, the water system structures will be repaired, improved, enlarged; water sources will be augmented; distribution system will be improved and extended to serve the increased populations.

Costs	:	Total Cost	Local Cost	External Cost
Repairs, improvements to 80 piped systems	:	\$ 2.5 m	\$ 0.5 m	\$ 2.0 m

Benefits : The project area includes a population of some 200 000 people who will benefit with an improved, regular and adequate supply of safe water.

Executing Agency: Department of Water Supply & Sewerage (DWSS)

Schedule of
Implementation : Commencement : 1987
Completion : 1990

Status : Preliminary data is available on the status and
needs of these existing water systems.



PROJECT DATA SHEET - R/MP1

Project Title : Rural Water Supply and Sanitation in the Midlands of Eastern Development Region

Location : Eastern Development Region
Sankhuwasabha, Terathum, Dhankuta, Bhojpur and Northern-part of Udayapur districts

Objectives : The long term objectives are to improve the health condition of rural communities and to reduce the drudgery of women and children in collecting water so as to enable them to divert their time and energy thus saved to earning or household caring activities in the case of women and to learning in the case of children.

The immediate objective is to provide adequate safe water and sanitation facilities by constructing:

150 - gravity-fed piped water supply systems and
4500 - sanitary latrines

Description : The project will employ simple technology of gravity-fed system with protected intake structures, break pressure tanks, storage reservoirs and public stand-pipes so that operation and maintenance can be carried out by the communities themselves. Construction of water supply systems and sanitary latrines will be implemented simultaneously. Health education will be also carried out as essential activity of the project.

Cost	Total Cost	Local Cost	External Cost
Piped water supply	\$ 6.63 m	\$ 2.86 m	\$ 3.77 m
Sanitation	\$ 0.44 m	\$ 0.13 m	\$ 0.31 m
Total	\$ 7.07 m	\$ 2.99 m	\$ 4.08 m

Benefits : 228000 rural population in the project area will have safe water supply facilities in their villages or at convenient distance and 27000 persons will receive sanitary latrines

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation : Commencement 1988
Completion 1990

Status : Detailed studies are required.

PROJECT DATA SHEET - R/MP2

Project Title : Rural Water Supply in the Midlands of Central Development Region

Location : Central Development Region
Kathmandu, Lalitpur and Bhaktapur districts

Objectives : The long term objectives are to improve the health condition of rural communities by provision of adequate safe water supply facilities which are also the basic and immediate need of day to day life of rural population, through construction of 90 piped water supply systems

Description : The project will construct gravity-fed pipe water supply systems which consist of protected intake structures, break pressure tanks, storage, public standpipes etc. The operation and maintenance activities will be the responsibility of the communities benefitted. The project will coordinate and cooperate with sanitation activities of the Department of Health Services which will also have a sanitation project with equally important health education component. Each system will cover 3000 rural population

Cost	Total Cost	Local Cost	External Cost
90 piped water supply systems	\$ 8.50 m	\$ 2.85 m	\$ 5.65 m

Benefits : 270000 rural population in the project area will receive adequate safe water supply facilities in their villages or at convenient distance.

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation : Commencement 1988
Completion 1990

Status : Detailed studies is required

PROJECT DATA SHEET - R/MP3

Project Title : Rural Water Supply and Sanitation in the Hills of Mid-Western Development Region

Location : Mid-Western Development Region
Humla, Mugu, Kalikot, Jumla and Dolpa districts

Objectives : The long term objective are to improve health condition of the rural communities and to reduce drudgery of women and children in collecting water so as to enable them to divert their time and energy thus saved to earning or household caring activities in the case of women and to learning in the case of children.

The immediate objective is to provide adequate safe water and sanitation facilities by constructing

120 - gravity-fed piped water supply systems and
5000 - sanitary latrines

Description : The project will construct simple gravity-fed piped water supply systems with protected intake structures, break-pressure tanks, storage reservoirs and public standpipes so that operation and maintenance can be taken care of by beneficiaries themselves. Both activities of water supply and sanitation will be carried out simultaneously as well as health education activity which is included as important component of the project.

Cost	<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
Piped Water Supply	\$ 5.77 m	\$ 2.76 m	\$ 3.01 m
Sanitation	\$ 0.49 m	\$ 0.15 m	\$ 0.34 m
Total	\$ 6.26 m	\$ 2.91 m	\$ 3.35 m

Benefits : 177800 rural population in the project area will have adequate safe water supply facilities in their villages or at convenient distance and 36300 persons will receive sanitary latrines

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation : Commencement 1988
Completion 1990

Status : Detailed studies are required

PROJECT DATA SHEET - R/MP4

Project Title : Rural Water Supply and Sanitation in the Hills of Far-Western Development Region

Location : Far-Western Development Region
Bajura, Bajhang, and Darchula districts

Objectives : The long term objectives are to improve health condition of rural communities and to reduce drudgery of women and children in collecting water so as to enable them to divert their time and energy thus saved to earning or household caring activities on the case of women and to learning in the case of children.

The immediate objective is to provide adequate safe water and sanitation facilities by constructing

150 - gravity-fed piped water supply systems, and

6200 - sanitary latrines

Description : The project will construct simple gravity-fed piped water supply systems comprising protected intake instructures, break pressure tanks, storage reservoirs, and public standpipes so that operation and maintenance can be carried out by the communities themselves. Construction of sanitary latrines will be implemented simultaneously with water supply systems together with health education activities which is also equally important component of the project

Cost :

	<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
Piped Water Supply	\$ 7.23 m	\$ 3.46 m	\$ 3.77 m
Sanitation	\$ 0.60 m	\$ 0.18 m	\$ 0.42 m
Total	\$ 7.83 m	\$ 3.64 m	\$ 4.19

Benefit : 227200 rural population in the project area will have adequate safe water supply facilities in their villages or at convenient distance and 43600 persons will receive sanitary latrines.

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation :

Commencement	1988
Completion	1990

Status : Detailed studies are required

PROJECT DATA SHEET - R/MP5

- Project Title** : Rural Water Supply and Sanitation in the Terai of Eastern Development Region
- Location** : Eastern Development Region
Jhapa, Morang, Sunsari, Saptari, Siraha and Southern part of Udayapur districts
- Objectives** : The long term objectives are to improve the health condition of the rural communities and to reduce drudgery of women and children in collecting water so as to enable them to divert their time and energy thus saved to earning or household caring activities in the case of women and to learning in the case of children.
- The immediate objective is to provide adequate safe water and sanitation facilities by constructing:
- 8200 - shallow tubewells and
22000 - sanitary latrines
- Description** : Shallow tubewells of 40 mm diameter will be sunk and suction handpumps will be installed. Each complete shallow tubewell will cover 200 persons. Care taken will be selected and trained while sinking the well and installing the handpump. Both activities of water supply and sanitation will be carried out simultaneously. Health education is included as essential component of the project.
- Cost** :
- | | <u>Total Cost</u> | <u>Local Cost</u> | <u>External Cost</u> |
|-------------------|-------------------|-------------------|----------------------|
| Shallow tubewells | \$ 2.27 m | \$ 0.90 m | \$ 1.37 m |
| Sanitation | \$ 2.12 m | \$ 4.65 m | \$ 1.47 m |
| Total | \$ 4.39 m | \$ 1.55 m | \$ 2.84 m |
- Benefits** : 1640000 rural population in the project area will have safe water facilities in their village and 221800 persons will receive sanitary latrines
- Executing Agency** : The Ministry of Panchayat and Local Development
- Schedule of Implementation** :
- | | |
|--------------|------|
| Commencement | 1988 |
| Completion | 1990 |
- Status** : Detailed plan of implementation is required.

PROJECT DATA SHEET - R/MP6

Project Title : Rural Water Supply and Sanitation in the Terai of Western Development Region

Location : Western Development Region
Nawalparasi, Kapilvastu, and Ppundehi districts

Objectives : The long term objectives are to improve the health condition of rural communities and to reduce drudgery of women and children in collecting water so as to enable them to divert their time and energy thus saved to earning or household caring activities in the case of women and to learning in case of children

The immediate objective is to provide adequate safe water and sanitation facilities by constructing

3700 - shallow tubewells, and

10000 - sanitary latrines

Description : Shallow tubewells of 40 mm diameter will be sunk and suction handpumps will be installed. Each complete tubewell will cover 200 persons. Care-taker will be selected out of the community and trained while sinking the well and installing handpumps. Both water supply and sanitation activities will be carried out simultaneously. Health education is also included as essential component of the project.

Cost	:	<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
Shallow tubewells	:	\$ 1.02 m	\$ 0.40 m	\$ 0.62 m
Sanitation	:	\$ 0.98 m	\$ 0.31 m	\$ 0.67 m
Total	:	\$ 2.00 m	\$ 0.71 m	\$ 1.29 m

Benefits : 740300 rural population in the project area will have safe water facilities in their villages and 100600 persons will receive sanitary latrines

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation :

Commencement	1988
Completion	1990

Status : Detailed plan of implementation is required.

PROJECT DATA SHEET - R/MP7

Project Title : Sanitation in Semi-urban Settlement

Location : Semi-urban Settlements in the following:

a. Eastern Development Region	1	No
b. Central Development Region	1	"
c. Western Development Region	1	"
d. Mid-Western Development Region	1	"
e. Far-Western Development Region	1	"

Objectives : To provide appropriate sanitation facilities and services, adequate drainage and suitable solid waste disposal services to low-income inhabitants in semi-urban settlements, and to demonstrate the feasibility of motivating these communities to adopt appropriate technologies on low-cost infrastructure services, thus alleviating the poor health condition of women and children

Description : The project will construct 3750 household pourflush water-seal latrines and necessary quality of sanitary latrines in 15 schools including water tanks and plumbing fixtures.

18 kilometer of drainage facilities designed to convey both stormwaters and sullage from enclosed drainage basins and principal access roads.

Substantial training activities for sub professionals and technicians, including skilled women, in construction techniques related to provision of basic infrastructures and dissemination of information on appropriate technologies are also included in the project for further expansion through partial self-help basis.

The project is based on self-help by beneficiaries committees with external assistance of materials and trainings

Cost	:		<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
All components		\$ 1.54 m	\$ 0.52 m	\$ 1.02 m	

Benefits : About 40000 semi-urban inhabitants will be covered by the project as beneficiaries

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation :

Commencement	1988
Completion	1990

Status : Project document has been completed.

PROJECT DATA SHEET - R/MP8

Project Title : School Sanitation

Location : 500 schools as shown below:

a.	Eastern Development Region	100	schools
b.	Central Development Region	100	"
c.	Western Development Region	100	"
d.	Mid Western Development Region	100	"
e.	Far Western Development Region	100	"

Objectives : Health education has an important aspect to improve health condition of rural communities and it has been part of curriculum in schools. Theory without practical is not adequate and seeing-is-believing tendency of children have highlighted the need of sanitary facilities in schools to improve personal hygiene and environment health of rural areas, where households latrines are being regard as not essential. The project therefore aims at developing habit among children to use sanitary latrines and habit thus acquired will naturally spread to the families with the help of health education activities.

Description : The project will construct 5000 sanitary latrines at the average of 10 per school complete with water supply facilities for the latrines and also complementary health education measures with special attention to use of latrines. Labour required for construction will be provided by the beneficiary community concerned. Technical assistance will be provided by the Ministry of Panchayat and Local Development.

Cost	:		<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
		All components	\$ 0.87 m	\$ 0.28 m	\$ 0.59 m

Benefits : At least 250000 students in 500 schools will be served by the output of the project and improvements to health condition in the project area will be the outcome.

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation :

Commencement	1987
Completion	1988

Status : Detailed implementation has to be prepared.

PROJECT DATA SHEET - R/MP9

Project Title : Ground Water Investigation in the Terais

Location : The Terai areas of:

1. Eastern Development Region
2. Central Development Region
3. Western Development Region
4. Mid Western Development Region
5. Far Western Development Region

Objective : The project will investigate the hydrogeological condition such as number of aquifers, depth and thickness of the aquifers, availability of water etc. down to depth of 300 meters.

Description : The project will employ simple instruments namely electrical earth resistivity meters. Five investigation teams will be organized and the investigation activity will be started in areas where the on-going shallow tubewell programmes are being implemented, and then will be continued to other areas of the Terai.

This is the first project of it's kind in water supply and sanitation sector in Nepal and therefore the project is composed of training as prior and essential requirement.

Cost	<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
All components	\$ 0.24 m	\$ 0.12 m	\$ 0.12 m

Benefit : The information and findings of the project will be very useful to on-going and future ground water extraction and utilization activities. The project will give information such as where and how much ground water could be obtained and will also suggest what type and level of technology will be suitable in exploitation of ground water. Wastage of resources in hit-or-miss system of on-going activities will be saved and maximum output of investment will be obtained for future plans and projects.

Executing Agency : The Ministry of Panchayat and Local Development

Schedule of Implementation :

Commencement	1987
Completion	1992

Status : Detailed plan of operation is required.

PROJECT DATA SHEET - R/DH1

Project Title : Sanitation in the Midlands of the Central Development Region

Location : Central Development Region
Kathmandu, Lalitpur, and Bhaktapur districts.

Objective : The long term objective is to improve the health condition of rural communities by provision of sanitation facilities with the aim to assist the goal of Health for All by the Year 2000.

Description : The project consists of three phases as follows:
Phase - I Pilot for Demonstration
Phase - II Expanded Programme for 12% population coverage
Phase - III Continuation for Total coverage
Sanitary latrines will be constructed basing on community participation and contribution and therefore health education is major component of the project and essential as well. The community participation will be 12% up to pan-level and 30% to 40% after completion on top of labour which the communities have to provide. Advance activities in health education will be carried out before constructions of sanitary latrines commence. Detailed plan of action will be prepared for Phase - II and Phase - III after completion of Phase - I

Cost :

	<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
Phase - I	\$ 0.40 m	\$ 0.08 m	\$ 0.32 m
Phase - II	\$ 0.86 m	\$ 0.26 m	\$ 0.60 m
Phase - III	\$ 7.10 m	\$ 2.16 m	\$ 4.94 m
Total	\$ 8.36 m	\$ 2.50 m	\$ 5.86 m

Benefit : The coverage of each phase is shown below:
Phase - I 15000 rural population
Phase - II 52800 rural population
Phase - III 439600 rural population

Executing Agency : Department of Health Services

Schedule of Implementation :

Phase - I	1987
Phase - II	Commencement 1988 Completion 1989
Phase - III	Commencement 1990 Completion 1995

Status : Implementation plan has to be prepared

PROJECT DATA SHEET - U/DW 1

Project Title: Water Supply to eight (8) Urban and Semi-urban Centres in the Terai

Location : Far Western Region: Mahendranagar, Dhangadi;
Eastern Region : Lahan, Rajbiraj, Bhadrapur, Duhabi, Rangeli,
Central : Gausala, Bariyatpur

Objectives : a) To improve and expand existing water system in five (5) Towns (Mahendranagar, Dhangadi, Lahan, Rajbiraj, Bhadrapur)
b) To construct new water systems in semi-urban centres (Rangeli, Gausala, Bariyatpur)

Description : The project envisages the supply of safe and adequate water through deep tube-wells, pumped to overhead, ground storage tanks. The water distribution will be through conveniently located public taps or through consumer paid house connections.

Costs :

	<u>Total Cost</u>	<u>Local Cost</u>	<u>External Cost</u>
a) Improvements to five systems	\$ 6.6 m	\$ 1.1 m	\$ 5.5 m
b) Three new systems			

Benefits : A total population of some 153 000 will be provided with adequate and safe water for their domestic needs.

Executing Agency : Department of Water Supply & Sewerage (DWSS)

Schedule of Implementation: Commencement: 1987/88 for four years
Completion : 1991/92

Status : Feasibilities study completed in 1985 through a HMG/UNDP/World Bank Project are available for five Towns.

Studies have been complete? by DWSS for the other 3 towns Gausala, Rangeli and Bariyatpur.

PROJECT DATA SHEET - U/DW 2

Project Title : Low-Cost Sanitation in Eight (8) Urban and Semi-Urban Areas

Location : Eastern Region : Ilam
 Central Region : Janakpur, Kirtipur
 Western Region : Pokhara, Bhairawa
 Mid Western Region: Birendranagar
 Far Western Region: Mahendranagar, Dipayal

Objectives : a) To convert existing bucket latrines to sanitary pour-flush latrines, in selected households.
 b) To provide new sanitary pour-flush latrines to selected households.
 c) To provide sanitary latrines for group use at selected population centres.

Description : The household latrines will be of the pour-flush type, complete with water-seal pan and twin-pits. The pits will be used, one at a time, in rotation, desludging each pit after at least 1 1/2 years of sludge digestion. The construction of latrines will be the responsibility of the householders, with key components such as the water seal pan/ concrete cover for pits provided by the Project.

The public latrines, will also be of the pour-flush type, provided with a water service and a caretaker.

The Project will include a component of training local manpower in latrine construction together with education of households in care & use of the facilities and the health benefits arising from such use.

Cost :

	Total Cost	Local Cost	External Cost
a) Conversion of 5000 bucket latrines to pour-flush latrines	\$ 12.0 m	\$ 5.5 m	\$ 6.5 m
b) Construction of 17000 pour-flush latrines			
c) Construction of 1000 public latrines			
d) Local manpower training			
e) Household/Community education and organisation			

Benefits : It is expected that approx 200 000 people will benefit from this Project.

The sanitation project would complement the water supply improvement programme in these communities to raise the health standards of beneficiaries.

Executing Agency : Department of Water Supply and Sewerage

Schedule of Implementation: Commencement: 1987/88
Completion : 1990/91

Status : A comprehensive Master Plan for the execution of this Project has been prepared with the assistance of the Technical Advisory Group of the UNDP/World Bank Inter-Regional Project.

There is also an on-going technical support project of UNCHS for improving institutional aspects.

PROJECT DATA SHEET - U/DW 3

Project Title : Preparation of master plan for storm water drainage.

Location : Far Western Region: Mahendranagar
 Western Region : Sidharthanagar
 Central Region : Greater Kathmandu and Janakpur.
 Eastern Region : Biratnagar and Rajbiraj

Objective : To prepare the master plan for storm water drainage in six urban centres.

Description : The rapid pace of urban development has resulted in acute storm water drainage problems in most urban centres.

The Project will involve the preparation of a comprehensive master plan with detailed cost estimates for the phased development of storm water drainage in the above towns. In Greater Kathmandu the storm water drainage will complement the domestic sewer system.

Cost	Total Cost	Local Cost	External Cost
Preparation of Master Plan	\$ 2.5 m	\$ 0.75 m	\$ 1.75 m

Benefit : The master plan will need to be followed up with funds for construction. When construction is completed, the system will reduce the adverse effects to life and property, which is currently a seasonal occurrence. The community will also benefit with a healthier environment.

Executing Agency: Department of Water Supply & Sewerage (DWSS)

Schedule of Implementation : Commencement : 1987
 Completion : 1988

Status : Preliminary studies have been completed in four towns.

PROJECT DATA SHEET - U/WS 1

Project Title : Water supply, sanitation in four Towns and Surface water drainage in two Towns.

Location : Water supply and sanitation

Region	Zone	District	Project
Mid-Western	Bheri	Surkhet	Birendranagar
"	Rapti	Dang	Tribhuvannagar
Central	Narayani	Chitwan	Bharatpur
Eastern	Mechi	Ilam	Ilam

Surface Water Drainage

Mid-Western	Bheri	Banke	Nepalgunj
Central	Narayani	Parsa	Birgunj

Objectives :

- a) To provide efficient, safe, and reliable drinking water facilities in four Towns.
- b) To provide on-site sanitation facilities to selected households on self-financed basis.
- c) To provide surface water drainage outlets in two (other Towns to eliminate flooding).

Description :

- a) Water Supply: The project covers four towns (Birendranagar, Tribhuvannagar, Bharatpur, Ilam) now under the jurisdiction of the Department of Water Supply and Sewerage (DWSS). The project covers the supply, transmission, treatment and storage needs for 1996 and the distribution, meters and connection needs till 1991.
- b) Sanitation: The proposed project for on-site sanitation is the construction of 510 latrines over a 5-year period beginning 1986/87. The implementation of the sanitation programme is conceived as a joint venture between (i) a "technical" agency (WSSC), (ii) a local agency (the Nagar Panchayat), (iii) the credit agency (a banking institution) and (iv) the participating households.
- c) Surface Water Drainage: The surface water drainage works proposed for Nepalgunj and Birgunj have been ranked on a priority basis considering the outlet trunk works for the core areas most affected by flooding as deserving the highest priority. The system consists of rectangular brick/concrete channels and trapezoidal earth channels.

Cost	:	Total Cost	Local Cost	External Cost	
		Water Supply, On-site	\$ 15.24 m	\$ 4.55 m	\$ 10.69 m
		Sanitation, Surface			
		Drainage			

Benefit : The project when completed will meet an annual demand of 5 519 mld and will have the capacity to meet the supply needs of a total of 133 000 people of which 26 400 people will be served through public standposts.

The direct benefits of the project are identified as (i) reduced time to collect water, (ii) reduced time lost in illness (productivity benefit), (iii) increased life span (and production) and (iv) reduced medical expenses. Indirectly, the project has multiplicative effect on the economy and beneficial effect on related project (e.g. irrigation).

Executing Agency: Water Supply and Sewerage Corporation (WSSC)

Schedule of Implementation :
 Commencement : 1985
 Completion : 1991

Status : The feasibility studies for these projects have been completed in Nepal under a tripartite agreement with HMG, UNDP and the World Bank by Proctor and Redfern International Ltd., Consulting Engineers and Planners of Toronto, Canada in association with East Consult (P) Ltd., Consulting Engineers of Kathmandu and the staff of WSSC. The studies cover the Water Supply, Sanitation and Surface Water Drainage needs to 2001.

PROJECT DATA SHEET - U/WS 2

- Project Title** : Water Supply and Sanitation in 12 Towns
- Location** :
- | Region | Zone | District | Project |
|-------------|----------|--------------|--------------|
| Mid-Western | Bheri | Banke | Nepalgunj |
| Western | Lumbini | Rupandehi | Butwal |
| " | " | " | Bhairawa |
| " | Gandaki | Kaski | Pokhara |
| Central | Bagmati | KTM-Lalitpur | KTM-Lalitpur |
| " | " | Bhaktapur | Bhaktapur |
| " | Narayani | Makwanpur | Hetauda |
| " | " | Parsa | Birgunj |
| " | Janakpur | Dhanusha | Janakpur |
| Eastern | Kosi | Sunsari | Dharan |
| " | " | Morang | Biratnagar |
- Objectives** :
- To provide efficient, safe and reliable drinking water facilities in 12 Towns.
 - To provide on-site sanitation facilities to selected households in 10 Towns, on a self-financed basis.
- Description** :
- Water Supply: The projects proposed consider water supply system improvements for eight towns; and for the remaining four (Kathmandu, Lalitpur, Bhaktapur and Pokhara), the improvements include an allocation for connection materials meters and standposts.
 - Sanitation: The sanitation programme proposes to build 8 680 latrines in a 5-year period beginning 1986/87 for all these towns except Bhaktapur, where technical and financial assistance from GTZ-FRG has been received for sanitation under the auspices of the Bhaktapur Development Project. The implementation of the sanitation programme is conceived as a joint venture between (i) a technical agency (WSSC), (ii) a local agency (the Nagar Panchayat), (iii) the credit agency a banking institution and (iv) the participating householder.
 - Technical Assistance: The projects also include related training of staff for the sanitation programme and assistance in reviewing, recommending and implementing the accepted recommendations for a phased improvement programme in Management Information System (MIS)
- Cost** : Total cost US\$ 31.62 million, of which local cost is \$ 6.71 million and foreign exchange component is \$ 24.91 million.

Benefit : The project when completed will meet an annual demand of 37 067 mld and will serve a total population of 795 753 (excluding Kathmandu Valley and Pokhara for which no additional supplies are provided). Of this, 157 637 rural population will be served by public standposts.

The direct benefits of the project are identified as (i) reduced time to collect water, (ii) reduced time lost in illness (productivity benefit), (iii) increased life span (and production) and (iv) reduced medical expenses. Indirectly, the project has a multiplicative effect on the economy and beneficial effect on related projects (e.g. irrigation).

Executing Agency: Water Supply and Sewerage Corporation (WSSC)

Schedule of Implementation :

Commencement	:	1985
Completion	:	1992

Status : The feasibility studies for these projects have been completed in Nepal under a tripartite agreement with HMG, UNDP and the World Bank by Proctor and Redfern International Ltd., Consulting Engineers and Planners of Toronto, Canada in association with East Consult (P) Ltd., Consulting Engineers of Kathmandu and the staff of ESSC. The studies cover the Water Supply, Sanitation and Surface Water Drainage needs to 2001.