Report

WaterAid

Water for All?

Review of Asian Development Bank's Water Policy Implementation in Nepal's Context - Annexes

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WaterAid Nepal **March 2006**

List of Annexes

Salient Features of the Selected Sample Sub-projects

Sub project	Location	Type	Start Year	Completion Year	Benefited Population (Design Year)	Water Supply Systems			Sanitation		Total cost(NRs)
						Household connections	Community tap stands	Tubewells	Community/ Institutional	Private	
Panchakanya** (Devigaon)	Sunsari	Gravity flow	1998	1999	NA	-	14	-	-	99% of total household	8,88,737
Indrapur**	Morang	Tubewell	NA	1996	NA	-	-	225	-	-	NA
Jhumka***	Sunsari	Pumping/ overhead	NA	1997	NA	135	14	-	14	-	1,28,28,000 (1,735 per capita cost)
Jarbuta*	Surkhet	Gravity flow	1192	1995	NA	-	22	-	-	-	NA
Khajura**	Banke	Pumping/ overhead	1993	1997	3474 (1996)	363	1	-	-	-	93,07,548 (2679 per capita cost)
Ratnanagar ^	Chitwan	Pumping/ overhead	2004	Under construction	35062 (2005)	5344 (Targeted 2005)	-	-	-	592 (May 2005)	9,99,74,600 (2,851 per capita cost)
Birendranagar^	Surkhet	Gravity flow	2004	Under construction	58936 (2005)	4965 (Targeted 2005)	1142 (Targeted 2005)	-	-	600 (May 2005)	26,40,75,160 (4,480 per capita cost)

Source: Filed visits, PCR 2004

Note: *Second Rural Water Supply and Sanitation Project, **Third Rural Water Supply and Sanitation Sector Project, ***Fourth Rural Water Supply and Sanitation Sector Project, ^Small Town Water Supply and Sanitation Sector Project

Annex 2

Indicators at the Community Level

Issue	Key Indicator	Method
Water supply reliability	Uninterrupted water supply	FDG/KI
	Regular timing of water supply	FDG/KI/Survey
	Use of improved sources as reserve during times of water insecurity	Survey
Water quality	Use of improved water sources for drinking	Survey
	Users perception of potability	Survey
Water supply accessibility	Time taken to fetch water (go, wait, collect and return)	Survey/FGD
	Proportion of households with household connections	FGD
	Use/tap ratio	FGD
Water supply quantity	Water supply meets daily water demand	FGD
	Water supply with adequate pressure	Survey/FDG
	User satisfaction with water supply	Survey
Discrimination regarding water supply	Equality of access to water supply	Survey/FGD
School WATSAN	Use of improved water sources and sanitation in schools	FGD/KI
Environmental sanitation	Use of hygienic latrine	Survey/FGD/ Observation
	Reduced user/toilet ratio	FGD/KI
	User friendly latrine designs	FGD
	Well designed, accessible public latrines	FGD/Observation
	Improved drainage, waste water disposal and solid waste management	KI/Survey
Hygiene	Hand washing practice after defecation and before eating	Survey/FGD
	Relevant and participatory hygiene awareness campaigns	FGD/KI
	Treatment of drinking water	Survey
Capacity to pay	User charge for water supply	Survey
	User charge for sanitation	Survey
	Inclusion in tariff setting and flexible billing in payment cycles	KI,/NGO consultation/ FGD
	Access to formal credit	FGD/Survey
	Targeting of formal subsidies	Survey/FGD/KI
Community Participation	Consultation/participation at various stages of project life cycles	Survey/FGD/KI
	Extent of the participation	Survey/FGD/KI
	Knowledge regarding the project	Survey/FGD/KI
Community Management	Representative and active user groups	Survey/FGD/KI
	Training given to user groups	Survey/FGD/KI

Indicators at the Executing Agency Level

Issue	Key Indicator	Method
Institutional strengthening	Setting up of nodal agency for project implementation at the city/town level	Desk review/KI
Capacity building	Staff capacity to ensure poverty and gender sensitive WSS services for the poor	Desk review/KI
	Targeting of WSS services to the poor	Desk review/KI
Accessibility of institutions	Level of WSS services to the poor	Desk review/KI
	Access to project information for the poor	Desk review/KI
	Establishment of effective redressal systems	Desk review/KI
	Level of interaction with civil society	Desk review/KI

Annex 3

Detailed Description of ADB supported Rural WSS Projects

First Rural Water Supply Sector Project (1984-1993)

ADB entered the WSS sector through the first RWSSP in 1984. This project was implemented at a cost of US$ 12.0 million in the Mid-Western and Far-Western Development regions of the country.[1] The main objectives of this project were to: (i) improve the living conditions of the selected areas, (ii) improve health by reducing waterborne diseases and (iii) reduce the burden of water collection.

At the completion of the project (which was 3 years late than anticipated) 7,280 shallow hand pumps benefiting 730,000 people had been installed (approximately 1 tubewell per 100) and 2,50,100 people had benefited form the piped water systems.[2] The PPAR evaluated the project as "partly successful." According to the report physical targets had been met but operational and financial sustainability of the piped water systems were in question and the economic and financial returns on investments were modest. Lack of community participation was also found to be a major limiting factor.

Second Rural Water Supply Sector Project (1989-1995)

The SRWSSP was approved at a cost of US$ 15.6 million in 1989.[3] The project was implemented in the Eastern, Mid-western and Far-western development regions.

This was the first ADB WSS project that had a sanitation component. One of its main objectives was to "carry out a limited program of sanitation activities."[4] Other objectives included providing safe and easily accessible drinking water to small rural communities, extending water supply systems in six urban areas, and design and development of institutional capabilities by providing on-the-job training to local personnel for O&M.

At the end of the project (which was completed 18 months behind schedule), 108 piped water sub-projects and 960 shallow tube wells had been implemented.[5] In addition, the water supply systems of 5 urban centers, out of the 6 that had been targeted, were also rehabilitated.[6] 146 low-cost public sanitation facilities were also built. The PCR rated the project as "successful" as it had exceeded its initial targets. In terms of community participation it was also regarded as being successful.

Third Rural Water Supply and Sanitation Sector Project (1992-1997)

The Third RWSSSP was implemented in the Eastern, Far Western and Mid-Western regions at a cost US$ 27.8 million.[7] This was the first WSS project, which stipulated that beneficiaries should provide a proportion of the total project cost (US$ 3.3 million).[8] The project had targeted installing 5,000 hand pump tubewells in 150 rural communities, constructing 180 piped water subprojects and rehabilitating 60 rural water supply

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[1] US$ 9.6 million was provided by the ADB and US$ 2.4 million by the government.

[2] This exceeded the initial target of installing 5,000 shallow hand pump tube wells in 175 communities in the Tarai and constructing new piped water systems in 75 rural communities.

[3] US$ 13.1 million was provided by the ADB and US$ 2.5 million by the government.

[4] The project however did not have a specific target.

[5] The project had exceeded its initial target of supplying water to 465,000 people. In total 512,000 people had benefited.

[6] According to the PCR report the Birendranagar urban centre subproject had to be deleted from the program because of the excessive cost expected to be incurred during water source development.

[7] US$ 20.5 million was provided by the ADB, US$ 4.0 million by the government and US$ 3.3 million by the beneficiaries.

[8] The beneficiaries were expected to contribute the amount in terms of time, labour and materials.

systems. In addition, the project had also targeted the construction of 3,000 low cost latrines in schools, health posts and the homes of village volunteers.

Under this project WUCs were established prior to the subproject implementation.[9] At the end 9,335-hand pump tubewells benefiting about 467,000 people had been installed. 387 piped water supply projects were implemented (benefiting 990,000 people).[10] 171 springs and wells were improved. 39 flood-damaged piped water supply subprojects were rehabilitated and 6,553 latrines[11] were constructed. This project was completed on schedule. It was rated as "generally successful" by the PCR.

Fourth Rural Water Supply and Sanitation Sector Project (1997-2001)

FRWSSSP focused on the Eastern, Mid-Western and Far-Western Development regions. Total budget allocated was 26.6 million US dollars.[12] The project had three main components: (i) Community Education and Awareness Program (CEAP), (ii) Water Supply and Sanitation Development and (iii) Implementation Assistance and Institutional Strengthening.[13] The project had targeted benefiting 6,00,000 people.

By the end of the project 6,70,000 people had benefited from the 322 water subprojects and 1,277 institutional latrines that had been constructed. In addition more than 33,000 private latrines, mostly simple pit type latrine with temporary structures, had also been built. This project was completed on schedule. The PCR rated it as "successful". It was found to be relevant, efficacious, and efficient. The project's sustainability was rated "likely".

Community based Water Supply and Sanitation Sector Project

The CBWSSSP was approved at a cost of US$ 35.7 million in 2003.[14] This project was proposed in view of two paramount development targets set by HMG/N: (i) MDGs and (ii) Tenth National Five year Plan.[15] It aims to serve 1,200 rural communities benefiting 8,50,000 people in 21 districts in the Mid-western and Far-western development regions.[16]

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[9] One of the major recommendations of the PCR of the SRWSSP was to establish WUCs before the implementation of the project.

[10] 115 subprojects in the eastern region, 141 subprojects in the mid western region, and 131 subprojects in the far- western region

[11] 10133 units for public institutions and 6,420 for private households

[12] US$ 20.0 million was provided by the ADB, US$ 3.5 million by the government and US$ 3.1 million by the local beneficiaries

[13] The community education and awareness was given much more priority than the previous three projects. A total of US$ 1.38 million was allocated for this program. Similarly WSS development was allocated US$ 19.06 million and US$ 5.72 million was allocated to institutional strengthening.

[14] US$ 24.0 million to be provided by the ADB, US$ 7.7 million by the government, US$ 0.4 million by the DDC/VDC and US$ 3.6 million by the local beneficiaries.

[15] The goals and strategies of this project are discussed in detail in the section 2.3.

[16] The districts were chosen based on HDI, water coverage, sanitation coverage, and diarhorroeal incidences.

To date, agreements have been signed between the district headquarters and the PMO.[17] Pilot projects have been started in four districts, where work is underway to identify projects and hire NGOs.[18] Construction has not started. There has been considerable delay in the selection of the Center Project Management Consultants (CPMC),[19] which is slowing the progress of the project.[20] Nevertheless, the head office has been moving the project ahead by preparing the Terms of Reference (TOR), format of the project selection, establishing Water Supply Support Teams (WSST), and hiring management consultants. The project is expected to be completed in 2010. However, with such a delay, this target seems unrealistic.

[17] One precondition of CBWSSSP is that agreements must be signed before the project is implemented.

[18] The selection of the NGOs is at the pre-qualification phase. Altogether 77 NGOs have been short-listed.

[19] In addition Regional consultants (Monitoring and Evaluation expert and Procurement expert) and District consultants are to be hired.

[20] Interview with by Mr. Lalit Basnyat,Deputy project manager of CBWSSSP, on 7th June 2005. The delay has been more than 6 months. On 10 January 2005 the CBWSSP sent the short-listed names of 7 consultants to the ADB (Manila) but by June they still had not received the confirmation of the chosen consultant. The resident mission does not have the authority to decide the consultant.

Annex 4

Detailed Description of ADB supported Urban WSS Projects

Kathmandu Urban Development Project (1993-1999)

The Kathmandu Urban Development Project was approved at a budget of US$ 30 million in 1993. The Project's goal of improving the environment in Kathmandu Valley related principally to Kathmandu Metropolitan City's (KMC) jurisdiction, which at the time of project appraisal was 3,815 ha in area. Project objectives were (i) to reduce critical infrastructure deficiencies; (ii) to institutionalise the local planning process and strengthen the development control system, including the issuing and enforcement of building permits; (iii) to improve KMC's capacity to maintain and operate local services and infrastructure; and (iv) to increase the capacity of local government agencies to mobilize financial resources to ensure sustainable urban investment (PPA: NEP 24321, 2003).

Under this project 11.7 km of drainage works was constructed and a pilot solid waste project was implemented. The project was completed in 1999 (9 months behind schedule). The PCR rated the project as "less than successful." A PPAR was also prepared in 2003, which reported that while sustainability was rated less than likely, overall the project was rated as "partly successful".

Melamchi Water Supply (Engineering) Project (1998-2002)

The Melamchi Water Supply (Engineering) Project was approved in 1998. The budget allocated for this project was US$ 6.75 million.[21] The aim was to assist HMG/N in preparing the Melamchi Water Supply Investment Project to provide a reliable and safe 24-hour water supply service to Kathmandu valley residents. There were three main project components: (i) engineering for the bulk distribution system, (ii) project management and (iii) artificial recharge of groundwater.

The project was completed in 2002, being two years behind schedule. The PCR rated the project as "successful."

Small Towns Water Supply and Sanitation Project (2000-2006)

The loan for this project was approved at a cost of US$ 53.9 million in 2000.[22] The project is expected to be implemented in small emerging towns along the East-West highway and the connecting major North-South Feeder roads. It has targeted providing water supply, limited drainage and sanitation facilities in 40-50 selected small towns, which have an average population of 12,000. A total of 6,00,000 people are expected to benefit from this project.

To date, 39 percent of the overall physical progress has been achieved. It is estimated that by 15th July 48 percent and by the end of the fiscal year 68 percent will be completed.[23] The project is in considerable delay. The main reasons being: delay in the completion of survey and design work, slowness for upfront

[21] US$ 5 million to be provided by the ADB and US$ 1.75 million by the government.

[22] US$ 35.0 million to be provided by the ADB, US$ 10.9 million by the government , and US$ 8.0 million by the local beneficiaries.

[23] As said by Mr. Rajesh Singh (STWSSP Department Head), 30th May 2005.

cash collection, delays in the bidding process and delays by the civil contractor to procure pipes and fittings.[24] A meeting between the STWSSSP and ADB has been set up in September 2005 to negotiate the extension of project to 2008.

Urban and Environmental Improvement Project

The Urban and Environmental Improvement Project was approved in 2002. The budget allocated is US$ 30 million.[25] The project aims to bring sustainable urban development in nine urban areas outside the Kathmandu valley.[26] The project has four components: (i) municipal strengthening, (ii) provision of urban and environmental infrastructure, (iii) provision of supplementary urban facilities and (iv) community development.

The executing agency is the Ministry of Physical Planning and Works. The project is due to complete in 2010.

Melamchi Water Supply Project

The Melamchi Water Supply Project (MWSP) was approved at a cost of US$ 464 million in 2000.[27] Recently the amount was revised to US$ 530 million. The project aims to improve the health and well-being of the people of Kathmandu valley by alleviating the critical water stress in the valley by tapping additional water resources from the Melamchi river. The project also plans to increase the water treatment capacity and optimise the use of existing water resources.

The main components includes (i) physical infrastructure development, (ii) social and environmental support, (iii) institutional reforms, and (iv) project implementation support. The Ministry of Physical Planning and Works is the executing agency and the Melamchi Water Supply Development Board is the implementing agency for the project. The expected project completion date was 2006. But, due to delays in awarding contracts, construction, controversies the future of the project is in doubt. According to the implementation report 2004, as of December 2003, 18 percent physical progress against the elapsed loan period of 48 percent had been achieved. More recently, according to the Water Energy Users' Federation (WAFED) construction of the access roads is underway. 4 Km of Sindhu access road and 1 Km of Gyalthal access road has been completed.[28]

This project is also one of the most controversial projects. The controversy reached its peak when the Ex-Prime Minister and the then Minister of Physical Planning and Works both were charged on corruption and kept behind bars in May 2005.

Kathmandu Valley Water Services Sector Development Program

The Kathmandu Valley Water Services Sector Development program was

[24] Progress Report (Period 6 July- 15 November 2004), PMO, December 2004.

[25] The ADB is providing the total cost of the project.

[26] Bharatpur, Hetauda, Banepa, Dhuliheul, Panauti, Bidur, Dhadingbesi, Ratnanagr and Kamalamai

[27] US$ 120 million to be provided by the ADB, US $ 226 million through cofinancing (JIBC, NDF, NORAD, OPEC, SIDA and WB) and US$ 118 million by the government.

[28] WAFED, 22nd August, 2005.

approved in December 2003 at a cost of US$ 10 million.[29] The project aims to support the water services sector institutional reforms by introducing the private sector participation (PSP) modality for the management of water supply and wastewater service delivery in the Kathmandu Valley.[30] Under this program, the Nepal Water Supply Corporation (NWSC) within Kathmandu Valley will be restructured and three key water bodies will be created: (a) The Water Authority (WA), which will act as the asset owner of water supply and wastewater service facilities, and be responsible for developing and overseeing service policies; (b) The Water Utility Operator (WUO), which will be responsible for operating and managing the water supply and wastewater systems under a license from the WA; and (c) The National Water Supply Regulatory Board (NWSRB), which will carry out regulatory functions to protect consumer interests.

[29] ADB is providing the total amount.

[30] The key components are: (i) the performance-based management contract; (ii) implementation assistance (iii) the completion of ongoing computerization of the billing and accounting systems for current NWSC branches in the Kathmandu Valley.

Annex 5

Technical Assistance (Water and Sanitation)

SN	Project Start date	Loan number	Project Title	Amount (US$ 000)
1	Sep-82	482	Water Supply and Sanitation Sector profile	50,000
2	May-83	514	Rural Water Supply and Sanitation profile	150,000
3	Dec-84	644	Rural Water Supply Sector	200,000
4	May-87	876	Second Water Supply Sector	250,000
5	Jan-89	1118	Strengthening the Department of Water Supply and Sewerage	140,000
6	Apr-91	1510	Third Water Supply and Sanitation	80,000
7	Jun-92	1718	Strategic Planning for the DWSS	280,000
8	Jun-95	2340	Fourth Rural Water Supply and Sanitation Sector	171,000
9	Mar-98	2998	Urban Water Supply reforms in Kathmandu Valley	800,000
10	Aug-98	3059	Small town Water Supply and Sanitation	600,000
11	Aug-04	3700	Optimizing Water Use in Kathmandu Valley	775,000
12	Mar-04	3844	Community-Based Water Supply and Sanitation	750,000
13	Apr-04	4096	Kathmandu Valley Water Management Support	1,400,000
			TOTAL	**5,646,000**

Projects with Partial WSS

SN	Project Start date	Loan number	Project Title	Amount (US$ 000)
1	Oct-99	NA	Urban Sector Strategy	200,000
2	Dec-99	3364	Urban Environment Improvement	750,000
			TOTAL	950,000

Annex 6

ADB Evaluation Reports

Project/Program Audit Report (PPAR) *PPARs evaluate the design, implementation and the performance of loan projects and programs. They are prepared about three years after project completion, for all programs and a selected number of projects.*	*Impact Evaluation Study (IES)* *IES evaluate the long-term impact of selected programs and projects. They review groups of projects in the same sector and/or in the same country, and focus on the relevance to and impact on the development process. Normal annual number of IES = 5 per year.*
Technical Assistance Performance Audit Report (TPAR) *TPAR evaluate the design, implementation and performance of technical assistance (TA) projects. Usually , several TAs are covered in the same report to optimise evaluation resources.*	*Special Evaluation Study (SES)* *SESs focuses on selected thematic issues across sector and/or countries or evaluates an ADB policy or process. Normal annual number of SES reports = 5 per year.*
Assessing Development Impact (ADI) *ADIs provide a synopsis of ADB's experience in a specific sector. These reports summarize and analyse the impacts, lessons learned, and recommend actions for the future based on the findings of existing evaluation reports.*	*Country Assistance Program Evaluation (CAPE)* *CAPE's evaluate ADB's country strategy and assistance program for one country. Looking back at experience over a longer period these evaluations assess the development impact of ADB assistance.*
Reevaluation Study (RES) *Assess development impacts and sustainability of one project about 5 years after completion. Considers relevance to ongoing projects. Normal annual number of RES reports = 4 per year.*	*Annual Evaluation ReportsAnnual reports provide a summary of evaluation activities and findings in a particular year, and an assessment of ADB portfolio performance.*

Annex 7

Monitoring and Evaluation Indicators

Based upon the survey conducted and the review of M&E documents the study team has identified the following indicators that are best suited for WATSAN.

Category	Key Indicator
1. Population coverage	*1.1 Social map showing:* *(i) Poor/non-poor community in the project area * *(ii) Distribution of private/community taps and private/community latrines* *(iii) Distribution of ADB private/community taps and private community latrines* *1.2 HH/ population* *1.3 Family size*
2. Water supply	
2.1 Accessibility	*2.1.1 HH/population served by river/spring/pond* *2.1.2 HH/population served by private taps/tube wells and community taps/tube wells* *2.1.3 Increase/decrease of HH/population using ADB supported sub project* *2.1.4 Time/frequency taken to fetch water* *2.1.5 Person responsible for fetching water*
2.2 Quantity	*2.2.1 Supply of water sufficient through the project area* *(i) During dry season* *(ii) During wet season* *2.2.2 Water supply meets daily water demand* *2.2.3 Quantity supplied is more/less as mentioned in the initial phase of the project*
2.3 Quality	*2.3.1 Satisfaction/dissatisfaction with the quality of water*
2.4 Reliability	*2.4.1 Uninterrupted water supply on a daily/seasonal basis* *2.4.2 Timing of water supply* *2.4.3 Problems in the water supply*
3. Sanitation	
3.1 Latrines	*3.1.1 No. of HH/population practicing open defecation* *3.1.2 No. of HH/population using private/community latrines* *3.1.3 No. of HH/population using ADB supported private/community latrines* *3.1.4 Types/status of the private/community latrines* *3.1.5 User friendly latrines* *3.1.6 Change in user/latrine ratio*
3.2 Drainage system/sewage	*3.2.1 Improved drainage waste water disposal and solid waste management* *3.2.2 Location of the drainage systems in the local communities*
3.3 Health	*3.3.1 Change in personal hygienic practices:* *(i) Hand washing practices after defecation and before eating* *(ii) Latrine use practice* *(iii) Frequency/ types of water borne diseases* *(iv) Increase/decrease of money been spent for treatment water borne diseases* *3.3.2 No./types of awareness/health campaigns conducted* *3.3.3 Improved health and sanitation*

Category	Key Indicator	
4. Participation	*4.1*	*Request for the project*
	4.2	*Consultation/participation at various stages of project cycle (Design, Planning, O & M, M & E, etc)*
	4.3	*Extent of participation*
	4.4	*Types of participation (Poor and Non-poor)*
		(i) Labour contribution
		(ii) Cash contribution
		(iii) Kind contribution
		(iv) Participation in WUC
		(v) Participation in decision making
	4.5	*Formation/composition/roles/responsibilities of WUCs*
	4.6	*Frequency/attendance of the WUC meetings*
	4.7	*Information dissemination process of the WUC*
5. Discrimination	*5.1*	*Distribution of water supply*
	5.2	*Distribution of latrines/sewage systems*
	5.3	*Targeting of subsidies*
6. Capacity to pay	*6.1*	*Present tariff system (Membership fees = 1, installation charges = 2, monthly water tariffs = 3)*
		(i) Household tap/tubewell connections = 1+2+3
		(ii) Community tap/tubewell connections = 1+2+3
	6.2	*Sanitation charges (Membership fees = 1, installation charges = 2, monthly tariffs = 3)*
		(i) Household latrines= 1+2
		(ii) Waste disposal= 1+2+3
	6.3	*Proportion of HH income for water supply*
	6.4	*Regular/irregular payment of tariffs by the users*
	6.5	*Flexibility in payments for Membership fees installation charges and monthly tariffs*
	6.6	*Special provision of payment for poor households*
	6.7	*Incidence of illegal connections and defaulters*
	6.8	*Targeting of subsidies to the poor/ criteria for selection*
	6.9	*Subsidies sufficient/insufficient*
7. O & M	*7.1*	*Regular operation costs for the system (eg. electricity, staff salary, fuel, etc)*
	7.2	*No. of staff required for the functioning of he systems*
	7.3	*Staff skill/capability in maintaining the system*
	7.4	*Financial/technical assistance rendered/not given by the DWSO*
	7.5	*Frequency/types of maintenance works*
	7.6	*Availability of spare parts*
	7.7	*Delays/reasons for delays*
8. Institutional aspects/ Capacity building	*8.1*	*Trainings received by WUC*
		(i) Financial
		(ii) Technical
		(iii) Sensitivity to poverty and gender issues
		(iv) Monitoring
		(v) Awareness/ health/hygiene
	8.2	*Frequency/types of trainings given to WUC, motivators, volunteers*
	8.3	*Coordination of WUC with local stakeholders as NGOs, CBOs and DWSO with the central level players*
	8.4	*Staff capacity of DWSS to ensure poverty and gender sensitive WSS to the poor*
	8.5	*Setting up on unit for targeting the poor*
	8.6	*Establishment/functioning of a redressal system*

Annex 8

Criteria Used by the ADB Guidelines

Criteria	Definition
Relevance	*The consistency of a project's goals, purposes and outputs with the government's development strategy, ADB's lending strategy for the country, and ADB's strategic objectives.*
Efficacy	*The achievement of purpose (i.e immediate objectives) as specified in the policy goals and the physical, financial, and institutional objectives adopted at the project approval or as formally modified during implementation.*
Efficiency	*The achievement of project purpose with the use of inputs, based on implementation performance with consideration of Economic Internal Rate of Return (EIRR) or cost-effectiveness of the investment.*
Sustainability	*The likelihood that human, institutional and financial resources are sufficient to support achievement of results and benefits based over the economic life of the project.*
Institutional Development and Other Impacts	*The improvement of the EA's or the country's ability to make effective and efficient use of its human, financial and natural resources in pursuing economic, environmental and social activities prompted by the project. It would also incorporate improvements in other development impacts not considered elsewhere.*

Criteria listed by the ADB Evaluation Report Guidelines

Annex 9

Case Studies of the Sample ADB supported Sub-projects

Case Study no. 1	*Case Study of Panchakanya (Rural Water Supply and Sanitation Project)*
Case Study no. 2	*Case Study of Jhumka(Rural Water Supply and Sanitation Project)*
Case Study no. 3	*Case Study of Indrapur(Rural Water Supply and Sanitation Project)*
Case Study no. 4	*Case Study of Jhumka(Rural Water Supply and Sanitation Project)*
Case Study no. 5	*Case Study of Khajura(Rural Water Supply and Sanitation Project)*
Case Study no. 6	*Case Study of Ratnanagar(Small Town Water Supply and Sanitation Project)*
Case Study no. 7	*Case Study of Birendranagar (Small Town Water Supply and Sanitation Project)*

Case Study of Panchakanya

(Rural Water Supply and Sanitation Project)

Introduction

Devigaon is located in ward no. 5 of Panchakanya VDC, Dharan of Sunsari District. It can be reached within a half hours walk from Bhanuchowk of Dharan. Though a small village it has many ethnic communities residing here. Rais and the Bishwakarmas make up the largest ethnic group in the village whereas there are also some scattered settlements of Magar, Limbu, Brahmin and Newar households.

Before the implementation of the ADB assisted subproject, the people faced much difficulties in meeting their need of clean drinking water. The people, especially the women, had to walk uphill about two hours to fetch water from a spring. And the task of fetching water from such long distance was more difficult during the rainy seasons. Though there was a water tank and 9 community water taps that had been constructed earlier, through Lutheran program, it was insufficient to meet the water requirements of all the people.

ADB assisted Subproject

The ADB subproject at Panchakanya is a Gravity Flow subproject implemented under the Third RWSSSP[31] It was completed in 1999 AD.

Officials from the DWSO carried out a survey on the Seesne River and calculated that the water intake would be sufficient to install 13 taps in the village. But the users asked for another additional tap (at that point where there were no other taps) and finally it was agreed that there would be 14 taps installed in Devigoan under the ADB assisted subproject, with one tap providing water for 5/6 houses. The WUC decided upon the locations of the community taps and Rs 1000 was collectively taken from the users for each community tap.

Main Issues

Water Supply: The sources of water (including drinking and performing all the household related works) in the village are the taps constructed under the ADB, Lutheran and Reikie projects and a water spring. Among these sources, the main sources for drinking water are the 23 community taps. Out of these 23 community taps, 9 taps have been

[31] According to the Project Completion Report (PCR: NEP 25201) conducted by the ADB, Panchakanya was constructed under the Third RWSSP. But, the field visit showed that construction started in 1999 (two years after the Third RWSSP was closed).

constructed by the Lutheran and 14 taps through ADB assistance program. Under these subprojects, water tanks[32] were also constructed which provide a regular supply of water. The supply of water is affected usually during the rainy seasons when the intake at the water source gets damaged. During such times the quality of water also becomes muddy. However, as there are two water reservoir tanks the supply of water is not much affected. On a daily basis, the water is supplied during the mornings and evenings. It is the plumber's responsibility to open and close the water supply systems during the prescribed times. The reservoir tank (built through the ADB assisted subproject) is constructed in such a way that, when the water tank is filled, the overflowed water is connected to the main pipes. The overflowed water is distributed to the water pipes and there is water in the taps even during the afternoons and the nights. This has facilitated the villagers to kitchen gardening. Due to availability of water many villagers have started to grow green vegetables, tomatoes and onions for household consumption. One villager, whose household lies nearer to the community tap reported that as there is no proper drainage system in the community taps, the outlet of soapy water (due to washing clothes, dishes and bathing) from the tap has negatively affected his kitchen gardening.

The locals do not have a particular preference either of the newer ADB or the older Lutheran taps. However, some users mentioned that the water from the older taps is tastier.

One community tap is providing water to approximately 4-9 households. During the field visit, all of the 14 taps were functioning. It does not take the water users more than 5 minutes to fetch water. Most of users have the attached flexible pipes (polythene/rubber) to the community taps thus bringing the tap water to their own courtyards. This type of arrangements has been very convenient for the women of the households, as they do not even have to line up a few minutes to fetch water.[33] It was generally felt among the users that there has not been any discrimination regarding the installation or use of the community taps. Bur during the study, it was observed that most community taps had been constructed near the WUC members' houses. The people opined that caste and class did not act as a bar

Private pipes allow locals to bring water right into their back yards.

[32] ADB water tank having the capacity of 10,000 liters and Lutheran water tank having the capacity of 13,000 liters

[33] According to the users, anyone can use their own private pipes to bring water to their houses. A consensus on the schedule of such connections was seen among the users who are using the same community taps which prevented conflict regarding issues such as whose turn is it to take water to his/her house.

among different users. And there was no discrimination or monopoly at the community taps for/of different people. However, post-pregnancy, women were found to be discouraged from using the community taps.

In the initial phase of the ADB subproject Rs 1000 was collected from all the households that were going to use the community tap.[34] The WUC had initially decided to charge Rs 25 per user for the newly constructed subproject, but the local people were against this because till then they had been paying Rs. 10 only as the water tariff. The officials of the DWSO acted as the facilitator of the WUC and communicated the importance of the tariffs to the users and it was on their recommendation and the users demands that the water tariff was laid out as Rs. 20 per month.

The WUC has developed a card system for the payment of water bills. All the water users have to pay the tariff monthly or either pay a fine of Rs 5.[35] Some locals pay the tariffs of 2/3 months in one installment but they do not get any concession in their earlier payment. But there are some facilities for some households that consume minimum water. There were two such households, where only elderly persons lived, and these were exempt from paying water bills because of their minimum water use.

There have been limited cases of non-payment. This is usually of the poor household who cannot pay the required amount and lament before the WUCs asking for consideration. But the WUC members tell the users that the fees are waved for just a month. The WUC has also formulated rules for acquiring new connections. It is seen that the rule relates to the users class group. For example the WUC charges new households, people who have migrated into the village an initial charge of Rs 500 (for concrete houses) and Rs 300 (for wooden houses) and later a monthly charge of Rs 20, as rest of the community paying. This, according the WUC member, is relevant as it also compensates the new users' lack of labour contributions during the construction phases.

Sanitation: One of the prerequisites to bringing the subproject to Panchakanya was the construction of private latrines by the community people.[36] The DWSO had distributed 100 cement concrete rings free of charge to start off the project.[37] According to WUSC members they were so desperate to get the subproject that they readily agreed to the conditions and so set about building the latrines. During the initial stage, an awareness program regarding health and sanitation had also been conducted which made the villagers aware of the importance of latrines. In fact it was reported that before the ADB supported subproject there was not a single private latrine in the whole village. At the time of study it was observed that nearly all the households had their own private latrines.[38] The latrines are mostly ring/pit latrines that have been dug up to 6 feet.

[34] This amount was suggested by the officials of the DWSO,

[35] The fine increases proportionately after every seven days. i.e. it becomes Rs 10 if it is not paid within the first week.

[36] This condition was put forward by the DWSO .

[37] The rings distributed by the DWSO for latrines was not sufficient for all the villagers so due to the increased demand the locals utilized UNICEF's revolving fund (through the VDC) to buy cement concrete rings, which cost Rs 135 per piece and construct their own latrines.

[38] No community latrines were constructed.

[39] The latrines do not have electricity or water supply. The locals take buckets of water while using the latrines.


Private Latrine

There is no sewerage system.[39] The latrines also varied in types usually according to their class. The poorer households have the pit latrines whereas those who can afford have the simple pan types. It was observed that the latrines were quite clean.

A few households who have not build their own latrines said that they have not yet felt the need.

It was found that, the construction of the latrines along with awareness campaigns on health and hygiene, conducted by the ADB during the initial stage of the program and later by various other organizations like the UNICEF, Sundar Samaj, Reikei, etc had caused a tremendous impact on the overall sanitation practices and cleanliness of the villagers. It was reported that, before the ADB subproject, the village was very dirty.There was not even one latrine; villagers would defecate in the fields, along the roads and rivers; livestock such as chickens, pigs, cattle were left to roam freely, etc. But after the construction of the latrines and awareness campaigns, villager's hygiene habits have changed and the whole locality has become cleaner.

Different committees, such as children cleaning committee have also been created that clean the village on a regular basis. There has also been a change regarding the disposal of garbage; Kitchen waste is made into organic manure and other waste products are burnt. However, the impact on the frequency of diseases (eg diarrhoea) have not been significant as villagers report that they still get sick.

Community Participation/Involvement in the ADB Project: The community people have actively participated in the construction of the ADB subproject. But their participation was limited to providing labour during the construction period, usually for digging pipelines.[40] During a certain stage of construction works also ensued under paid labour and the participants were paid Rs 25 per day. After the handing over of the subproject to the WUC, the day-to-day functioning is being managed by the WUC who in turn mobilize the locals whenever required maintenance and repair have to be done. When there are minor repairs to be done it is usually performed by the plumber but when more labour is required then all the users are informed. This is usually during the rainy seasons when floods damage the intake structure at the source and labour is required for rehabilitation and maintenance. When rehabilitation is needed the plumber usually communicates the message to the users. Members from each user household are required to participate during such times and users do participate too. Though the works are conducted under free labour works the WUC provides tea and snacks for the labour contributors, the expenses are arranged from the collected water tariffs.

[40] It was reported that one member (both male and female) from each household was involved for labour contribution during the construction phase

The WUC members were the people who were most informed of the ADB subproject. But, they reported as the construction works ensued under contractors they were not given much information regarding the structure, type of pipes, layout of the pipelines etc, which has caused problems during their repair. But some even opined that it was because the WUC did not know much about the financial matters (project cost) there was no dissention among the WUC members and with the local users. The WUC members acutely feel that if they had been informed about the amount of assistance they would be receiving then they might have proposed for a larger intake at a further point. This they feel would have lessened the continuous rehabilitation that has to be taken in the present structure during the rainy seasons.

The users also had some information regarding the WUC and its activities. The people were satisfied with the workings of the WUC, though some wanted it to be more transparent. During the construction phase also information had been disseminated to them by the WUC members regarding the on-going works. But more emphasis was given to the issues of their labour contribution. Many users had assembled on the day when the DWSO officials had come to their village and the WUC members had been selected. But they feel that they have not been involved in decision-making processes, except in locating the intake and the location of the community taps.

Lutharian Water Tank

ADB Water Tank

The ADB subproject has been functioning very well and seems to be sustainable. A significant reason is the active involvement and work done by the WUC members. They have managed to collect regular water tariffs and encourage locals to construct private latrines. By setting up bank accounts and keeping clear and transparent records they also have the necessary funds to maintain the water system

Capacity Building: Government authorities have been providing support to the WUC in terms of technical assistance (repair of a pipeline which the local plumber could not handle), monetary help (Rs 14,000 was given to the WUC in 2004 to enlarge the Lutheran water tank) and the distribution of pipelines. Hence, support is being provided, but the WUC complain that it is not continuous and that they have to go to the district headquarters many times before their requests are heard. They also complain that the project authorities should have trusted them with a map detailing the layout and measurement of the pipes, as it would have made maintenance much easier. There is also the need of the government authorities informing the WUC about training programs being conducted so

that the WUC members and staff can increase their skills.

Benefits/Sustainability: The most significant improvement of the ADB subproject has been the access to regular, affordable, clean drinking water through the community taps. This has had a tremendous impact on the lives of the local villagers. Water collecting time has been drastically reduced. This has been very significant for women who no longer have to travel long distances to collect water. Most have utilized their time by getting involved in small-scale income generating activities such as weaving typical Nepali handloom caps, Dhaka Topis. The availability of water has also resulted in the locals starting their own vegetable gardens in their backyards. While they do not cultivate enough to sell in the markets they are able to supplement their diets with green vegetables.

The water system is being efficiently managed by the WUC. They have the necessary funds (or are helped by the WSSDO) and they are also able to mobilize the local community when repairs need to be done. The repair and maintenance work is done by a full time plumber who also manages the day-to-day functioning of the system. Overall, the long term functioning and sustainability of the water system seems to be high. The one identifiable hindrance is the lack of formal training of the plumber. He learnt how to repair pipes as an apprentice of the former plumber but is unable to solve complicated maintenance work. This was seen when a stone got stuck in the pipes and as the local people were involved in the construction phase they did not know where the joints of the pipes were. As a consequence the system was shut down for until an engineer from the district headquarters was brought to the village to solve the problem. Thus to solve this problem, the WUC have put forward their view that they need to be informed when trainings at the district levels occur.

Another important impact the subproject has had is on the awareness regarding health and hygiene practices. Many NGOs, CBOs have conducted various health/ hygiene campaigns (the ADB has conducted only one campaign during the initial stage of the subproject to highlight the need of private latrines). Presently nearly all households have their own private latrines. The locals are aware of the need of clean hygienic practices. They either burn or create organic manure from their kitchen waste and do not leave their livestock to roam the streets freely.

The Story behind Dhaka Topis in Panchakanya

Bina B.K. of Panchakanya started weaving Dhaka topis about 3 years ago. She learnt the skill from a local woman who had been taught how to weave by Mr Amar Singh, who interestingly had learnt the skill himself in jail. After being released from prison he used his ingenuity to start-up a small business by teaching local women how to weave.

The convenience of the community taps (which in Bina's case is just across the street from her house) has allowed local women to be a part of the weaving business. They no longer have to spend hours fetching drinking water and so most of the free time is devoted to taking care of the household and getting involved in income generating activities. In Bina's case, she earns Rs 90- Rs 120 per topi. It takes her about two days to complete one. While Most of the money is used for household consumption, there still remains some money left for her own personal needs. And so, she is happy at being able to earn some extra money for her family and herself.

Case Study of Jhumka

(Rural Water Supply and Sanitation Project)

Introduction

Jhumka is rapidly growing village that is located in Sunsari District along the Mahendra Highway. It lies about 20 km west of Itahari, the district head quarters. The local inhabitants are the tarai ethnic communities. But, in recent years peoples of other ethnic communities from the hills have also migrated and settled in the area.

ADB Subproject

The ADB subproject at Jhumka is a Pumped Water subproject of the Forth RWSSP. It was completed and handed over to the WUC in 2053/54 BS. Under this subproject water connections have been provided to households located in ward no. 2,5,6 and 9 of the VDC. Before the construction of the system a survey had first been conducted by a team of experts, who had told the local communities that a WUC had to be formed and that they would have to have at least 300 connections to remain financially viable for the implementation. The system, itself was only constructed 2 years after money had been collected from the locals. Initially for 2 /3 months water had been clean and drinkable. But, since then, according to the users, the quality has deteriorated and the majority of them do not use it for drinking purposes. The local users complain that instead of "Drinking water" the subproject should be renamed "Washing Water" as it is used only for that purpose due to the high iron content.

At present, the ADB subproject is providing approximately 135 households with piped connections. The subproject also constructed 14 community taps and 14 community latrines.

Main Issues

Water Supply: The main source of drinking water in Jhumka is the tubewell. Almost all households have their own private tubewells that they have constructed either through UNICEF's revolving fund or through their own personal means. These were the main sources of water before the construction of the ADB supported subproject. Those households that do not have tubewells or piped connections use the community taps constructed by ADB's assistance.

The water supplied by the ADB supported subproject has high iron content. It forms a yellowish layer when left in containers.

Hence, locals do not use it for drinking purposes. Rather they prefer the water from tubewells. However, it was found that shops and restaurants located near the highway have been using the water for drinking purposes so far without any reported negative effects. When the water is stored in tanks, locals complain that they need to be cleaned every week due to the yellowish residue approximately 1 kg, as said by the users that accumulates in the tanks. Some users also reported that rashes broke out on their skins when they bathed with the ADB supplied water.

When the demand is stated the supply is met

The Jhumka Water Supply system provides one important facility to its clients-the water supply is increased when the demand is stated. For example, if there is any occasion when the need of water increases (marriage ceremonies, construction, festivals, etc), then the water users have only to request the pump operator for extra water timings and it is immediately supplied.

The water is supplied during the mornings and evenings throughout the year. The water comes for approximately two hours in the mornings and evenings. There is a break only when the electricity supply is disrupted and water cannot be pumped. The force of the water is quite high as piped water goes up to second floor without any pumping systems.

The water users have to initially pay Rs 2,305 (Rs 1000 for membership, Rs 900 for the meter, Rs 400 for installation and Rs 5 for the request form) in order to get the connection. The rates were decided upon by the WUC without consulting the local users, however they do give the prospective users the facility of being able to pay the amount in installments. They then have to pay the monthly charges (minimum charge is Rs 30) according to the meter readings on the taps. The majority of water users stated that they could afford to pay the tariffs. However, it was learnt that due to the bad quality of water many users have decided to not pay the tariffs at all and risk getting the connection cut off. There are also many users who, in spite of paying the initial Rs 1000 for the membership fee, have not taken the piped connections. This is primarily because they do not feel the need to pay for the bad quality water. Hence, many users have reverted back to the old source of water i.e. the tubewell. All this is having a tremendous impact on the sustainability of the subproject, as it has been calculated that there needs to be at least 300 connections for the system to remain financially viable, but at present there are only about 135 connections.

In order to increase the household connections the WUC members regularly conduct campaigns in various localities encouraging community members to install household connections.

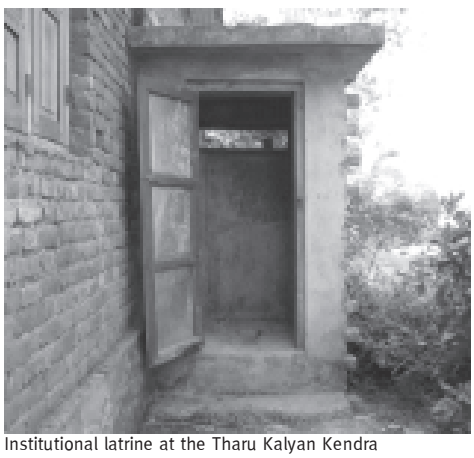
Community Tap at Jhumka

The ADB had constructed 14 community taps in Jhumka. But, at present there are only 2 taps that are providing water to 20/25 poor households for free. According to the WUC members, the other 12 taps were cut off because the community taps

were not beneficial for the subproject in terms of cost recovery. These taps would most often be left running, the Bibcocks Tutees were broken etc. The remaining 2 community taps were not cut down, as the locals in the area have no other alternatives for drinking water.

In one community tap it was learnt that there were disputes regarding the use of water. The higher caste households were found to argue and prevent the lower caste users from utilizing the taps. They even go to the extent of cleansing the whole water platform after the lower caste people have used the taps. However, regarding the location and distribution of piped water connections there has been no discrimination.

Sanitation: The ADB subproject constructed 14 community/institutional latrines in Jhumka.[41] Before the construction of the ADB subproject, awareness campaigns highlighting the need for changing defecating practices were also conducted. However, more than the ADB it was seen that UNICEF has been playing a greater role in the sanitation field. Through its revolving fund, many households have constructed their own private latrines. It was learnt that before either the ADB or the UNICEF subprojects, there were no latrines (private or community) but with the involvement of ADB and UNICEF households have started constructing their own latrines and there have also been changes in the hygiene practices.


Institutional latrine at the Tharu Kalyan Kendra

The community/institutional latrines constructed by the ADB are single cubicle type, which do not have the facility of electricity or water. All the latrines have been handed over to the community, schools or organizations. In the case of school latrines, they are not gender sensitive, as only one latrine having one pan was constructed for both girls and boys. The schools are instead using the latrines constructed by the UNICEF as latrines for both boys and girls have been constructed. Among the 14 latrines constructed, it was found that many are not being used. One latrine constructed near a temple has already been demolished by the locals as it was not being properly managed and was polluting the area.

Community Participation/Involvement in the ADB Project:

The community people have been involved in the project in terms of contributing labor to dig pipelines. During the initial stages it was learnt that many were enthusiastic about bringing piped water to their area and readily paid Rs 1000 for the membership fee. But after observing the quality of water many did not want to take the piped connections now.

The WUC themselves were reluctant to take up handling of the water system as the quality of the water was bad and it was only after some heated arguments between the DWSO offcials and the WUC that the handing over process had occurred. According to the WUC, at the time of the handing over, the officials from the district headquarters had told them that similar to tubewells, the quality of

[41] Community/institutional latrines were built at the Tharu Kalyan Kendra, Red Cross, temple, Youth club

water from the pumped subproject would eventually get better after a certain amount of water had been drawn out. Eventually after some weeks clean water will flow they told. But, the quality still has not improved and WUC complain of the deliberate misinformation that was given to them. On their part, the WUC have been providing information regarding the water system to the community members.

At present the WUC employees 3 staffs (Pump operator, Plumber and a Meter reader). There were actually 5 staff, but the number had to be decreased, as the WUC just could not afford to pay all the salaries. Hence, the staffs that remain have the responsibility of having to do multiple tasks. According to the WUC, the money that is collected from the water users is just sufficient to pay the electricity bills, it is not enough to pay the salaries of the staff. There is also not much money that is left in the bank accounts. A clear picture regarding the financial aspect of the system could not be obtained as the WUC members were not very forth coming about their financial status. One member commented that the district headquarters had provided financial help but others replied that no such help had been provided. Another important aspect is the involvement of women members in the WUC. There is at present only one women member in the WUC, the other member passed away a couple of years ago. Regarding the involvement of the female member, it was found out that she is not involved in the activities of the WUC. Most water users are even unaware that there is a female member in the committee. The other WUC members complain that she is unable to give any time to the committee and that they make most decisions without her.


An unused community tap has become a bicycle stand

Benefits/Sustainability: The most important benefit derived from the Jhumka Water Supply system is the availability of water right in their households. And even though the water is not used for drinking purposes it is still utilized for other activities such as washing clothes and bathing. The community taps, which are still functioning, are also providing drinking water to the two localities.

However, the sustainability of the project is in doubt. This is mostly due to the poor quality of water. There are some households along the highway who have taken up new connections, but according to the WUC members the number of connections is insufficient to maintain a financially viable system.

An interesting point stated by the WUC members is that Jhumka is growing at such a fast rate that the demand of water is increasing rapidly from year to year. Had the quality of the water been good then the system would never be able supply enough water to all the users. But, unfortunately this is not the case. The WUC members point out the need of a filter, to clean the water. They believe that if they had one and it is able to filter the water then more people would be attracted towards the system. However, the WUC complain that their demands of a filter have fallen on deaf ears.

The water system is kept smoothly running by the plumber and the pump operator. Broken pipes are immediately repaired. Pipes are also provided (by the DWSo) to set up new connections. Most spare parts are locally available. But, there was one incidence when a part of the pump had broken down which resulted in extremely muddy water being supplied through the connections. In order to get the spare part, the committee went as far as Calcutta to find the part but they could not even find it there. Later, with the help of a local electrician there were able to find a substitute.

The ADB subproject has also had an impact on the sanitation habits of the local communities. Awareness campaigns have made the local users aware of the need of private latrines. The community latrines however are mostly not used or are to dirty to be used.




Case Study of Indrapur

(Rural Water Supply and Sanitation Project)

Introduction

Indrapur lies 17 km east of Ithari along the Mahendra highway. The VDC is spread across a wide area where the main indigenous people are the Jhangars, Tharus and Dhimals. People from the surrounding hills have also migrated into the area. Before the ADB assisted subproject was implemented in the area, the main source of drinking water was a nearby river. Depending on the distance, local women had to travel any where from 20-30 minutes to fetch water.

ADB funded Subproject

The ADB funded subproject in Indrapur is a tubewell subproject implemented under the Third RWSSSP (1992-1999 AD). 220 community tubewells and 5 deepset tubewells were distributed in ward no. 1,2,3,4 and 6 at different periods in various localities. For example during the last phase of the project 76 tubewells were distributed.

When the ADB subproject came to Indrapur, a central committee was first formed comprising of 9 members representing each ward. The main functions of this committee were to handle the management of the tubewells and act as a link between the local community users and the DWSO [now known as the Water Supply and Sanitation Division Office (WSSDO)]. However, during the actual distribution of the tubewells rather than the central committee it was the ward chairpersons who monopolised and decided where and how many tubewells to distribute. The tubewells also did not come in one lot but in different lots that allowed local political leaders to manipulate the process. According to locals, the whole process was politicised, as leaders used the tubewells to gain votes in local elections. Before the tubewells were installed, all the households that were to use the tubewells had to collect Rs 250 collectively. Private tubewells were also installed after paying the prescribed amount of Rs 250. After the installation, subcommittees made up of 3 users, which included one male and two females were set up under the central committee for the operation and maintenance. One female member was then chosen as the "caretaker" who was given training by the DWSO on how to maintain the systems.

With regards to sanitation and hygiene, the ADB has not implemented any subprojects as such in Indrapur. Rather, it

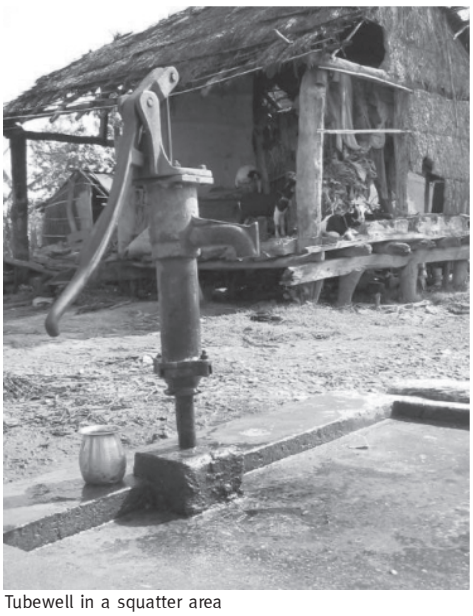
is UNICEF that has encouraged the locals to construct their own latrines through its revolving fund.

Main Issues

Water Supply: The main sources of drinking water in Indrapur are the tubewells. Both the ADB and UNICEF, have played an active role in this sector by distributing a large number of tubewells in various localities. Among these tubewells, the locals prefer the ones distributed by the ADB because they are easier to use and the parts are also longer lasting.

Under the ADB funded subproject, the majority of the community tubewells were distributed for 3/4 households. But during the field visit it was seen that in poorer areas (squatters, migrated people) one tubewell was distributed for about 20/25 households.

The water from the tubewells is clean and is used for all household proposes. But in one locality (ward no 6) in a poor squatter area it was found that the water contained live worm-like-insects. The locals nevertheless use this water by filtering it through muslin cloth. According to Mr. Maskey (DWSO Overseer, Itahari) the case of this tubewell is unique, as the settlement of the houses is on a low-level land where most of the water from the surrounding areas tend to accumulate. The users also do not practice hygienic behavior (they defecate, wash their clothes and cooking utensils) near the tubewell. The DWSO is helping these people by providing bleaching powder to clean their water.



Tubewell in a squatter area

The most significant problems facing the locals with regards to drinking water is the drying-up of the tubewells during the summer months or in other cases becoming totally useless after a couple of years. One reason for this is due to the carelessness on the part of the skilled laborers/Mistrees that were hired during the installation (as said by Mr. Maskey). The tubewells were dug up to only about 18 feet deep, and as soon as water was found the digging was stopped. Another reason was the lack of technical knowledge of the locals who did not realize that they were being given deliberate misinformation. They were told that if the pipes were dug any further the water would start coming out red. According to Mr. Maskey, most of the tubewells were installed during the rainy season, when the underground water levels were high and so when the dry season came, the water level naturally decreased thereby affecting the water supply. In other cases, tubewells were up rooted and dismantled when the government reallocated the poor migrated people from their temporary shelters near the highway.

In some cases, money was taken from the local users at the time of installation,

even when the local labourers should have been providing the services for free. It was found out that the laborers informed the locals that the ABD tubewells were UNICEF's. UNICEF subproject has the policy of the locals providing 50 percent of the costs in either cash or kind. Hence, the locals were told that they had to contribute to the installation of the system, which in most cases was by paying a certain sum or by giving food to the labourers.

Under the ADB subproject, Deepset tubewells, more than 140 feet deep, were also installed in certain areas where normal tubewells could not locate water.

Rs 1 lakh tubewell that no one uses!

Kamala Gurung was delighted when the DWSO staff came to survey her land to install a deepset tubewell. She had heard that it was technologically very superior to the normal tubewells. Linking technological advancement with automatic water flow, she readily showed the staff sites near her fields whereby she could best utilize the water (which in her opinion would gush out from the tubewell automatically). She thought that irrigating her fields would be very easy.

But, when the deepset tubewells were installed, she was dismayed to see that she still had to manually pump water out of the ground. It was like any other normal tubewell. Initially for a couple of months, she shared the water with other nearby households. But later on, after she installed her own tubewell she stopped using it and slowly other households followed suite. Presently the deepset tubewell remains idle. Only children play with it.

These deepset tube wells were installed at a very high price of more than 1 lakh rupees. Local users reported that they were easy to use. However, it was seen that in spite of the huge costs involved they were not being utilized to their fullest (see box). Presently there are only two deepset tubewells that are being used.

One interesting point made by Mr. Arjun Shrestha (central committee member) was that in Indrapur there is also the availability of spring water in the area. According to him, this resource has not been fully tapped, which is why there is the need of an overhead tank system.

Sanitation: The ADB has not implemented any programs related to sanitation e.g., hygiene awareness programs or the construction of latrines. UNICEF has shown more involvement by distributing cement concrete rings for the construction of latrine through its revolving fund. But, there are still many households, the majority in poorer areas, which still do not have private or community latrines. The awareness level regarding hygienic behavior is very low. Most tend to defecate at nearby streams or even near the tubewells. This has had a severe affect on the health of the inhabitants who complain of frequent diarrhoea illness.

Community Participation: Locals were not actively involved during the implementation of the subproject. Their contribution was only in term of the cash (Rs 250 that was collectively collected) before the installation of the tubewells. This lack of involvement has been counter-productive to the sustainability of the project as there is lack of a feeling of ownership among the users. Even central committee members were not given the authority to distribute tubewells as they

saw fit. This made the project largely the supply driven one.

Capacity Building: After the installation of the tubewells, the DWSO staff provided trainings to the local users, especially the caretakers (1 female member from each subcommittee) on the operation and maintenance of the systems. The training was provided for 3 days. However, the locals complain that the trainings should have been provided right at the start of the subproject, which would have reduced the chances of the tubewells from being functional. Presently a large number of tubewells are neglected and remain useless.

Dissemination of information was found to be very minimal. Many locals were not aware that the tubewells being distributed were ADB funded. In some cases, the local skilled labourers took undue advantage from the users. Mentioning that the tubewells were from UNICEF's programme and so demanded payment as installation charge from the users. Another case that highlights the gap is the case of the deepset tubewells, which were installed at very high prices only to be not used at all.

Benefits/Sustainability: The most significant benefit derived from the ADB subproject has been the access to clean drinking water. Before the installation of the tubewells, locals had to go to streams to collect drinking water. However, the sustainability of the tubewells is very much in doubt. Many of the tubewells that were installed have dried-up or remain idle due to the lack of maintenance.

One of the most significant factors affecting the sustainability of the tubewells is the lack of ownership among the community tubewell users. It was learnt that the household nearest to the tubewell were regarded as being responsible for the operations and maintenance of the wells. This was seen to cause a lot of negative feeling and animosity, in some cases even quarrels. With the result being that, no one is taking the initiative to repair the tubewells. There were also many conflicts related to the use of the tubewells. The lack of locally available spare parts also affected the maintenance of the tubewells. According to the locals, it is the "washer" that regularly needs to be repaired and changed. But, it is not readily available in the markets. In many cases, the users have had to make substitutes out of local materials. The negligence on the part of the DWSO can also be seen by the uselessness of the toolboxes that were distributed during the implementation of the tubewells subprojects. In most cases toolboxes were not given to the users and the wrenches do not fit the screws.

There is also a lack of clarity regarding the state and the use of the funds that were collected during the initial stage of the subproject. Money was put into the bank, but no one knows not even central committee members, how much or for what purposes it will be used.

Case Study of Jarbuta

(Rural Water Supply and Sanitation Project)

Introduction

The Jarbuta Water Supply and Sanitation project implemented in ward no. 1 of Jarbuta VDC lies east of Birendranagar, on the way to Nepaljung, and is about 12 km. from the city bus stop.

ADB assisted Subproject

The ADB funded Jarbuta Water Supply and Sanitation project was implemented under the Second Rural Water Supply and Sanitation project (SRWSSP) assistance program. The project was started in 1992 AD and completed in 1995 AD. The Lashun khola is the main source of water for this subproject. Under this subproject (which has been titled no. 9), two subprojects "Ka" and "Kha." have been implemented. 13 and 22 community taps have been distributed under the Ka and Kha subprojects respectively. The Kha subproject, which was the focus of the field study, supplies water to approximately 300 households in Jarbuta ward no. 1. Hence, the household ratio per community tap is approximately 14 households. Three water tanks of 20 cubic meters have also been constructed to supply water to the 22 community taps, including a tap that was given to a school. Among the 22 taps, 3 taps have been installed at a higher level, which has affected the quantity of the water flowing in those pipes. This project did not have a sanitation component.

Main Issues

Water Supply: Before the implementation of the ADB funded subproject, the people of Jarbuta, ward no. 1 were facing a lot of difficulties in getting clean and adequate water supply. In the early 1980s, the locals had received some assistance from the Zilla Panchayat to construct a "Kuwa" or a spring, which was the sole provider of water for the entire village. This Kuwa was located further from the village, due to which fetching water required much time. Women had to get up during the early hours of the morning to reach the source so that they would have enough time to do their other household chores.

In 1992 the community members found out from the DWSS that they would be getting assistance under the ADB II subproject and accordingly the Jarbuta Water Supply and Sanitation project was started that same year. During the

construction of the system, there was opposition from neighbouring villages who were also relying on the water from the Lashun River. Men of the adjoining ward tried to disrupt the construction by preventing the labourers, WUA members going to the construction sites. In the end the DWSO had to intervene between the two committees.

After the completion of the project the water users committee was established.[42] For each community tap, the WUA had collected Rs 500 from the households using the same tap. This amount as prescribed by the DWSO staffs was readily complied by the locals as they were facing hardships in accessing water.

Besides three taps (in which water does not come in adequate and reliable quantities) all the other households have regular and adequate supply of water. For the households depending upon the above-mentioned taps, they have to go to Kath kuwa or Bhutera kuwa to get their daily water supply. Both these sources are far (half an hours' walk) and are located near forests so the majority of the women feel unsafe going there. It must be mentioned that the inhabitants of these households who rely on the three taps are Dalits. They accuse the other households of wasting water unnecessarily as the consequence of which, water does not flow adequately to their taps. Form this it can be inferred that discrimination during the installation of the taps did take place. Discrimination is evident not only at the location of the water taps but also within the same tap. The Dalit women stated that the women of higher cast and class monopolise the water of the community taps by filling up their own vessels even if it is the Dalits turn. And even after 10 years, the WUA has not taken steps in order to solve the problems of the Dalit households.

The water is supplied during the mornings and the evenings, as fixed by the WUA. All the households using the community taps have to collect Rs 100 as the tariff on a monthly basis. A few years back this tariff was fifty rupees. But the WUA members decided to increase the amount to compensate for the lack of tariffs paid by the school. The local people were not consulted for this rise in the tariff. But the people (excluding the households where the community taps are not functioning) are willing to pay this amount.

It was found out that the users were not satisfied with the workings of the WUA. The WUA was found to be inactive. Water tariffs had not been collected for the past year; no major rehabilitation works had been done on the system, and elections also had not been held since the first WUA had been elected. One of the main complaints of the locals was that, the old generation of WUA members should allow younger energetic people to lead the way.

Sanitation: No sanitation components were implemented under the subproject. In fact, even after ten years neither the DWSO nor any NGOs or CBOs have conducted any type of awareness campaigns in the community. Hence, the village looks dirty. Most of the people defecate in the nearby forest, creating foul stenches.

Out of the total 300 households, only half have constructed their own latrines. Of this only half are "puckka" types.[43] The others are just pit latrines that are covered around with plastic sheets.

[42] It was during the Third Rural Water Supply and Sanitation project that WUAs were established prior to subproject implementation.

[43] Single cemented rooms with pan latrines.

These latrines are not used during the monsoon when the water comes up and becomes very dirty.

During the field visit is learnt that two households that had deposited money for the household connection under the Jhupra Brihad Khanepani Ra Sarsafai Ayojana (JBKRSA)[44] had received the material assistance in building private latrines. Each household received three tin sheets, two rods and five packets of cement. They had to construct the latrine themselves. It can be inferred that the latrines were distributed in order to motivate others to join the Birendranagar, STWSSSP.

Community Participation/Involvement in the ADB Project: Local users were not actively involved during the implementation of the subproject. Their participation is seen to be limited to providing the prescribed amount cash (Rs. 500) and labour for the construction of the subproject. The users especially the women were not aware of the workings of the WUA or the subcommittee that was created under the WUA for the management of the different taps.

Benefits/Sustainability: Of the 22 community taps, 19 of them are providing adequate water to the community people. Three of the taps as already mentioned above, do not provide enough water to the community people. According to WUA members, during the construction phase, the local mistris did not lay down the pipes down to the required 3 feet. Due to this negligence, it has been found that locals cut the pipes or hammer nails to drink water in forest areas. Water is wasted in this way and the pipes also have to be repaired or replaced. There are three storage tanks of this system, but there is no system to transfer the extra water to the taps once the storage tanks are full. In this way the extra water has not been utilised.

Capacity to pay: The locals need to pay Rs 100 collectively for the water that they use. But, for the past one year this tariff has not been collected by the WUA.

Due to the shortage of water (three taps do not provide enough water) there is a group among the locals who want the JBKRSA to come to their community. They are even ready to take loans from the banks to pay the required amount.[45] Hence, at present the people of this community are divided into two camps. One camp for the JBKRSA and the other against it. The people who are for this say that the prevalent source of water is inadequate and many taps do not have sufficient water. Even those taps that have sufficient water will not have so after some years. So the best way to solve their water problem would be to come under the JBKRSA. This would provide water for all the needed users. And since the water connection would be of private types, there would also not be any squabbles among the users. But the users who are against it say that the water problem can be solved by rehabilitating the existing subproject. Hence, there is no need to go under the JBKRSA subproject and pay the membership fee.[46] This amount, according to this group of users is too high and not all can afford it.

[44] Small town Water Supply and Sanitation Project, Birendranagar

[45] According to one local villager, he had taken a Rs 40,000 loan from the Agriculture Development Bank in order to pay for the membership fee of the JBKRSA, construct a toilet and a bio gas plant.

[46] The membership fee is Rs 3,500 for being included in the JBKRSA.

Waiting for Water

Parvati Lamichane, along with about ten other households belong to that group which is facing difficulties in getting regular and sufficient water supply. The quantity of water is quite insufficient for all their households' activities. Everyday there are long queues in front of the public water tap due to which it takes Parvati hours to fill her water vessel. Sometimes, the water is not even enough to fill the vessel. The day the study team visited Jarbuta, not a single drop of water came from her community tap.

Due to the water problems, her husband deposited 3500 rupees to the Jhupra samiti for the STWSSSP. After some time Pravati also received latrine building assistance program from the Jhupra samiti (which had selected about 600 poor households that had paid for the household connection but did not have latrines). After getting the matrial they built their own puckka latrine. In fact, this household had gotten a loan of Rs. 40,000 from the Agricultural Bank in Birendrangar to pay for the private connection and also to build the biogas plant. Interest has to be paid at one rupees and fifty paisa per hundred every month. For this she has had to put her house as bondage for the amount. Hence, she is now anxiously waiting for the household connection whence she believes will fulfil water needs of her family.

Case Study of Khajura

(Rural Water Supply and Sanitation Project)

Introduction

Khajura bazar lies 9 km west of the district headquarters, Nepalgunj, of Banke district in the Mid-western Development region. It is located in ward no. 2 of Bageswori VDC. The indigenous inhabitants of the area are the Tharus. But, in recent years other ethnic groups from the hilly areas have also migrated into the area. The main occupation of the inhabitants is agriculture.

ADB assisted Subproject

The ADB subproject implemented in Khajura is a Pumped Water subproject of the Third RWSSSP. The project was started in 1993 AD and handed over to the Water Users Committee (WUC) in 1997 AD. The estimated cost of the project was Rs 1,17,82,686. But the actual expenditure was Rs 93,07,548.94.[47] At the time of the implementation of the project the base year population (1996 AD) was 3474 and the design year population (2016 AD) is 9208. Hence, the per capita cost of the project is calculated to be Rs 2,679.

The Khajura Water Supply and Sanitation subproject is providing water to the inhabitants of ward no. 2, 3,4,5, and 6 of Bageswori VDC. At present the subproject is providing household tap connections to 363 households within the Khajura bazaar and the surrounding periphery areas. One community tap has also been installed in the Kalika Temple (the temple had donated land for the pump house). No latrines were installed under this subproject.

Main Issues

Water Supply: The Khajura Water Supply and Sanitation subproject was not a community demand driven subproject. It was, a subproject that was brought into the area by a few community members who decided that they needed piped water supply. It was also an expensive subproject (per capita cost being approximately Rs 2,679) that was constructed to provide piped water to only a small population.

One of the significant motivations in bring the project was to develop the area into an urban center to attract industry by improving its facilities, as said by a former WUC Chairman. The subproject was also politically guided as locally

[47] Completion Report Format, Third Water Supply and Sanitation Project, ADB Loan No. 1.55 NEP (SF)

prominent politicians who were involved in bring the project to the area. The consequence of this lack of community initiative is that, presently the Water Users Committee (WUC) is having a difficult time in attracting new consumers to install the piped water supply. At present there are only 363 household connections (the total capacity of the overhead tank is more than 700 connections, as said by the present WUC chairman). The WUC have been conducting awareness campaigns to motivate the locals to install piped water but it is having only limited success. Last year, the number of connections was increased by 15 households.

Before the subproject was implemented the community people were relying on to fulfill their daily needs. These tubewells had been either installed privately or had been distributed by the Water Supply and Sanitation Division Office (WSSDO), formerly known as the Department of Water Supply and Sanitation (DWSSO). Even after the implementation of the ADB funded project, the majority of community people still continue to use these tubewells for their water supply. The main reasons being: (a) many are satisfied with the water that they are getting from the tubewells and so see no need to install piped water, (b) many community people cannot afford to install the piped water (Rs 1000 for membership fee plus other expenses for the pipes and the skilled labor) and (c) the WUC has the policy of providing piped water only if, 5 or more households (that ask for the piped connections) are on the continuous supply line of the main pipeline. Hence, households that are more than 100 meters away from the main pipeline will not receive the piped connections.

In order to bring the ADB subproject to Khajura, the local people first established a WUC and then collected Rs 400 from 300 households. The amount that was collected was Rs 1, 20,000, which is 1.2 percent of the total project cost.[48] But, it was still not enough (as the amount that needed to be collected was Rs 1,51,000). Hence, fearing that the subproject would not be given to them the WUC members collected an additional Rs 100 and then put their own money to make it the required amount.

According to the users of the piped water, the water is sweet to taste and does not need to be filtered (the WUC regularly treats the water with potash and bleaching powder). However, it was learnt that for the past couple of weeks, blackish water has started to come from the taps of some household connections. According to the WUC, the blackish water comes when the overhead tank is treated with the medicine and so after the water is allowed to flow for sometime the water normally becomes clean again. But for some households, the water has remained black. Hence, users have now reverting back to the tubewells as their main source for drinking water. The WUC has been contacted but they have not been able to solve the problem. According to them, one reason for the blackish water maybe because of the GI pipes, which cause the water to turn blackish, when water is stored for long periods.

The water users pay the water tariff according to the meter readings. They have to pay Rs 70 for every 13,000 litres (13 units) and then Rs 5 for every extra unit. A 5 % discount is given if the water users pay the tariff before the 7th date of the Nepali month. It was learnt, that

[48] The total project cost was Rs 9,30,7548.94

the meters were only installed within the last two years. Before that, the users had to pay Rs 100 regardless of the amount of water that they use. According to a former WUC member, the meters were only recently installed because, as according to the government policy, the Khajura Water Supply and Sanitation project was receiving cash from the WSSDO in instalments. After the cash payments stopped, then only did they install the meters.

Sanitation: The ADB funded subproject implemented in Khajura did not have a sanitation component. Which is seen to be one of the most important necessities of the area. According to the division head of NEWAH, while 90% of the populations have access to drinking water, only 50% have access to hygienic sanitation. In the bazaar area there are latrines that have been built by the villagers through their private means. But in the periphery areas, many of the locals voiced their grievance of not having a latrine and not being able to afford it either.

The WSSDO is trying to address the needs by distributing latrine rings. Recently, 60 latrines (given by the WSSDO) were distributed by the WUC. But the WUC distributed the latrines to only those households that had piped connections. According to the WUC chairman, this was done to encourage the non-piped water users to install the piped water supply. Besides distributing latrines, the WSSDO is also playing an important role in creating awareness in the community. Through female workers, many awareness programs are conducted in the area. Various women groups have organized themselves and are playing extremely active roles in creating awareness on the sanitation issues.[49] Every week, the women groups clean the streets and they also regularly conduct the "Sanitation Weeks" organized by the WSSDO.

Pro poor: The WUC does not have any pro poor policies to address the needs of the financially challenged members of its committees. There are no provisions except the opportunity to be able to pay the initial membership fees in installments. And the 5% reduction in the water tariffs, if the households pay the tariff before the 7th date of each Nepali month. Though useful, these policies do not help to provide access to safe piped drinking water to the poorer sections of the community.

The WUC also does not provide the piped supply, if any of the households (which request for it) are not on the continuous supply line. Hence, even though there are households which can afford the rates, they still cannot get the piped water because of their locations.

Sustainability: According to the WUC, the Khajura subproject at present in neither in loss or in profit. 700 household connections are necessary to make the subproject a profitable one. But with only 363 household connections presently, and with only a few households taking up the new connections, it is very unlikely that the subproject can become profitable. Another significant factor is the high maintenance cost of replacing the pipes every year.

[49] There are many women groups such as Chetriya Mahila Samrkshan Sanstha, Mothers groups and Saving and Credit Groups.

Community Participation/Involvement in the ADB Project:

The community people's participation in the subprojects was limited to the labor contribution during the implementing stages. But, after the completion of the subproject, it was found out that they are very much aware of the activities of the WUC. It was learnt that during the last WUC elections an all female committee had stood up for elections for the various posts. But had lost the elections. Nevertheless, women have started to play active roles in the community. Especially in the sanitation sector, where they regularly organize cleaning campaigns and motivate community members to keep their communities clean.




Case study of Birendranagar

(Small Town Water Supply and Sanitation Project)

Introduction and background

Birendranagar is a beautiful valley, which is the headquarters of Mid-western Development Region and of Surkhet District. Since the last 15 years, residents of the valley have been facing problems of drinking water scarcity, more so during dry seasons. Besides water scarcity there is also inadequate sanitation facilities in the valley. To address the problems of inadequate water supply and sanitation facilities, Birendranagar Municipality, in 2000 AD sought financial assistance from the Project Management Office (PMO) of Small Towns Water Supply and Sanitation Sector Project. Accordingly users' association called Jhupra brihat khanepani tatha sarsaphai upabhokta sanstha (Jhupra Integrated Drinking water and Sanitation Users' Association) was formed in that same year. The request for the assistance was finalised in Jhupra's favour. And the PMO and Jhupra Users' Association entered into an initial agreement on 24 May 2001 AD to implement Birendranagar Small Town Water Supply and Sanitation Project (BSTWSSP). Final agreement concerning the implementation of the BSTWSSP was made on 27 March 2002 AD by PMO, Town Development Fund (TDF), local bodies and Jhupra Users' Association.

The project area covers Birendranagar Municipality, Latikoilee VDC, Uttarganga VDC and Jarbuta VDC (ward nos. 1-4). Population coverage is calculated to be 58,936 in 2005. The project aims to provide good quality water (i.e clean water) throughout the day to the total population in the service area. The total project cost is estimated at NRs 26,40,75,160 of which 20% share will be born by users (WUSC) including 5% upfront cash contribution. In addition users have to pay back a loan amount equivalent to 30% of the capital cost at an interest rate of 8% per annum to TDF with a maturity of 12 to 15 years of town project operation.

The main source of water for the BSTWSSP is Jhupra Khola (stream), which has an assured safe yield of 80-85 lps. The abstraction point of the source is located at about 11-km northeast of Birendranagar Town. The total length of the transmission pipeline is about 38.4 km and the distribution network is 173 km. The project has proposed to distribute 4,965 private taps and 1,142 community taps (1 community tap for 6 HHs) in 2005. It has been assumed that the number of private taps will increase to 15,155 by 2020 while the number of community taps will decrease to 746.

According to the project status report prepared by the PMO, about 12% of physical progress of the project has been made as of 16 May 2005.

Community Level

Main Issues

Water Supply: There are presently seven independent water supply systems serving Birendranagar Municipality and the adjoining VDCs of the valley. The name of the systems are- Itram Khola Subproject, Itram Spring Subproject, Khorke Subproject, Bulbule Subproject, Aapdali Subproject, Banspani Subproject and Jarbuta 1 and 2 Subproject. Out of these subprojects, Aapdali Subproject has high content of calcium and the deposition of the calcium in the pipeline sometimes makes the subproject non-functional. Bulbule Subproject is a lift system, which takes high operation cost and has frequent breakdown of electro-mechanical equipment resulting in the disruption of regular water supply. The BSTWSSSP has aimed to develop the existing water sources, excluding Aapdali Subproject, and integrate them into the project.

Most of the existing subprojects were constructed by Department of Water Supply and Sewerage (DWSS). These subprojects were handed over to the Jhupra Users' Association on 3rd Shrawan 2057 (2000 AD).[50] At present, these subprojects are operated and maintained by the Association.

As mentioned in the detailed project report of BSTWSSSP (WELINK, 2002), the existing systems serve nearly 67% of the total population of the service area. Rest of the population, mostly poor and squatters, have no access to safe drinking water. They fetch water from nearby stream, well and kuwa (spring). The quality of water of these sources is poor and quantity is also inadequate. It is reported that in some areas people suffer from many water born diseases due to unsafe and inadequate water.

The users committee has aimed to provide drinking water to 100 % of the population in the service area; however, the big challenge in front of the committees to provide service to poor population.[51] The project has set a policy of providing water only to those people / households who have been members of the Jhupra Users' Association by paying required membership fee of Rs 3,500. Those people/ households who have private connection from existing subprojects have to pay 600 rupees more, (total 4100 rupees) as a new connection charge, to be a member of the association. Poor people, who maintain their livelihood from daily wages, have no capacity to pay the required membership fee. That is why more than 3,000 households out of 11,000 have not been members of the association and have been for all practical purposes, excluded from the subproject.

Sanitation: The project has allocated only 1.36 per cent amount of the total project cost to improve the sanitation in the project area. This amount is used to construct drainage system and to provide subsidy to construct private latrines. At present about five kilometres of drain has been constructed in the bazaar area. Most of the drains are open and solid waste is frequently dumped into it. The

[50] In fact this was one of the preconditions imposed by the DWSS to the Jhupra association

[51] The Central Bureau of Statistics (CBS) census 2001 data classifies urban poor in two categories, 'poor' and 'ultra poor' based on the types of materials used for housing construction and type of fuel used for cooking. 'Ultra poor' defined as living in non-durable housing units made without cement, in poor repair, lacking basic facilities and using wood and cow dung for fuel sources. Such situations indicate squatter settlements.

project is now constructing 3.3-km long new drain and is going to rehabilitate 1 km long existing one. But this will be inadequate to manage and improve the drainage system in the area. People argue that the amount allocated for sanitation is insufficient to improve the existing poor sanitation of the area.

The WUSC has recently conducted a survey, which shows that 3,800 households out of 11,000 have no private latrines. Those who have no latrines are from poor households. During the field observation it was seen that most of the village people have no latrines and they go to streams, forests or fields for defecation. There are many kachcha latrine which have no roof, no walls and no pan, just a pit covered with plastics supported by a few wood pillars. It is highly debatable whether these structures should be termed as latrines. The survey conducted by the WUSC has included these temporary structures as latrines so there seems to be inaccuracies in the survey.

In the project area, the WUSC implemented a subsidy program to its members in order to promote the habit of building latrines. About 600 latrines have been constructed so far with this subsidy support. People argue that such subsidies, in the past, went to well off households. The WUSC members also realised this fact. But, they argue that poor people could not build the latrine with the support of subsidy because they also have to invest their own resources which costs almost the double of the subsidy materials provided by the WUSC. The project (WUSC) only provides 3 pieces of GI sheets, 3 sacks (50Kg in each sack) of cement, a pan and some pipes, in the form of subsidy, to construct a latrine. Rest of the things like sand, stone, doorframe and labour should be managed by users themselves. Poor people could not manage all these. For example, a poor user had taken the subsidy materials from the WUSC, but he did not build the latrine because he could not manage the required additional materials. Finally he sold the subsidy materials to others because the cement provided by the WUSC was getting damaged. On the other hand, the subsidy program was limited to the users who have already paid the membership fee of Rs. 3500. The poor, who have not paid the membership fee, have largely been excluded from this program. At present, the project has aimed to provide subsidy to 100 families to construct latrines. The WUSC members say that they have conducted a house-to-house survey and now based on the information of the survey they would target the ultra poor for the subsidy program.

Gerkhutar Youth Club is the NGO responsible for mobilising communities and conducting awareness programs of health and sanitation including the use of safe drinking water. But the Club has not carried out these activities effectively. Subsequently most of the village communities are unaware of the project activities and lack proper information regarding health and sanitation. These communities also reported that no relevant person or organisation has come in the communities to conduct awareness and education programs.

Participation: It is seen that different stakeholders have varying degree of participation in the ongoing project. At present the WUSC has a crucial role in implementing the project and the members are actively involved since the initial phase of the project. The WUSC consists of nine members out of which three are female. Besides, there is an advisory committee to aid the WUSC in

its different endeavours. The members of the advisory committees are usually the elites from different political parties and the local leaders.

The local people had not been consulted by the municipal board (WUSC) prior to the implementation of this project neither have they been approached on matters of tariffs. People do not know who decided the amount of membership fee and on what basis. They also do not know who proposed/fixed the rate of water tariff that they have to pay when the supply of water starts.

Their participation seems to be limited to providing the prescribed amount of fees to the WUSC and providing the required labour as determined by the WUSC. Besides this the people have no substantial role to play in the project activities. In fact the users and especially the poor are not properly communicated about the project happenings. For instance though the WUSC members have thought of including the poor by involving them in labour contribution works so these get paid and in turn can deposit a certain amount for the membership fees at the later phase of construction. This information has not reached the poor. On the other hand, the WUSC is not a directly elected body of the people. So the issue is can the WUSC in reality represent the people's interest is of paramount importance.

Capacity to pay: More than 3,000 families (households) have been unable to become the members of the association because of financial reasons. They cannot pay the membership fee. This payment is a prerequisite for private tap connection and for getting latrine subsidy. This situation raises the question that if they are not able to pay even the membership fee then how can they pay the water tariff in a monthly basis. In addition once the users pay for the membership fees, they also have to provide 15 percent of either cash/kind contribution and also pay for the connecting pipes.

In order to become members, some have paid membership fee through loans from local moneylenders. Most of the user members are not informed about the rate of water tariff. And even those who can afford to pay the water tariff also comment on the tariff of being high.

The monthly tariff rate for private connections is proposed/fixed as follows:

Tariff Band	NRs./cum
0-10	9.50
11-20	14.25
20 above	19.00

According to the WUSC members, the above-mentioned rate of the water tariff was proposed/fixed by the Town Development Fund. This rate it is said will be revised periodically. The WUSC has laid down different tariffs for different types of users. Accordingly the household connections and community connections have varying tariffs. In this way, according to the WUSC, it is trying to reach the poor households. The poor households who cannot pay for private connections can opt for community connection by paying less but getting adequate water.

Executing Agency Level

Institutional Strengthening

DWSS has established a PMO to manage the project on a day-to-day basis. PMO is responsible for overall implementation

and co-ordination. It has set up a TPO in Birendranagar to co-ordinate and facilitate the field activities.

Another major stakeholder of the project is Jhupra Integrated Water Users' and Sanitation Association. The committee performs all tasks on behalf of the association on matters related to water supply and sanitation development within the service area. It is now working in co-ordination with TPO. The committee carries out the following activities:

- Hold periodic meetings among stakeholders
- Collect membership fee from users
- Mobilize users to provide labor contribution during construction
- Organize awareness campaigns and help NGO (GeYC) to create awareness in the communities regarding the project activities, sanitation, health and hygiene.
- Take responsibility of operating and maintaining the project after completion
- Pay the loan with 8% interest to the Town Development Fund (TDF) within 12-15 years

Local bodies such as the municipality, VDCs are also the major stakeholders. But, it was found out that even though the municipality is one of the principal stakeholders, the staff are unaware of its roel as the guarantor of the TDF loan.

Other supporting institutions involved in implementing the project are WE Link+Mutual Engineering Consultancy, Gerkhutar Youth Club and CTCE/Kalika JIV (China/Nepal). WE Link provides engineering consultations to the contractor CTCE/Kalika and monitor the activities of it. Gerkhutar mobilises the communities to support the project and makes public aware of health and hygiene. CTCE/Kalika JIV is a contractor that carries out civil works.

Capacity Building: TPO is the leading agency of the project in the field, which has the responsibility to co-ordinate, facilitate and monitor field activities. However, the TPO has no authority to make decisions on even minor changes, approve plans and programmes concerning the project activities submitted by other stakeholders. This along with the limited number of staff is hindering the progress of the project. But, according to the TPO manager, they capable of carry out the mandated responsibilities. But they are not specially trained focusing on gender sensitiveness, community mobilisation, and other social issues.

During the construction phase, the main responsibility lies with the consultant. It should guide the contractor to carry out civil works as per design. But some stakeholders queried about the competence and efficiency of the consultant engineer deployed in the construction site. They also stated that the design of the project is incomplete. Similarly, stakeholders also raised serious questions regarding the capabilities of the engaged NGO.

Co-ordination and Synergy among the Sector Players: There is a good co-ordination between TPO and WUSC. Consultant and NGO also work in co-ordination with TPO and WUSC. Local bodies seem passive in taking concern about the project. The main cause of the local bodies' passiveness might be non-existence of incumbent people's representatives.

Mid-western Regional office of the DWSS has no responsibility to deal with the project hence there is no co-ordination between project stakeholders and this office.

Case study of Ratnanagar

(Small Town Water Supply and Sanitation Project)

Introduction

RSTWSSP is an overhead pumping project that is being implemented in ward no 1 to 4 and 7 to 13 of Ratnanagar Municipality, which is 10 km east of Bharatpur, the district headquarter of Chitwan. The total number of population expected to benefit in the sub-project area, as per the detail engineering survey is 32,087 and the total number of households is 5,344. The total cost of the project is estimated at about 10,00,00,000 (ten crore) Nepalese rupees excluding administration cost. Of this amount, 20 percent share will be borne by users (5 per cent cash and 15 per cent labour contribution), 30 percent will be received from Town Development Fund (TDF) in the forms of loan to be eventually repaid by the users, and 50 percent will be contributed by the government. Users (WUSC) have to pay back the loan amount at an interest rate of 8 percent per annum to TDF within 12 to 15 years.

Status of the Project

By the end of 2061 BS, the pre-feasibility, feasibility, detailed deign, tendering, community preparation and the collection of upfront cash contributions from the local users had been completed. Presently, the RSTWSSP is under construction (22 percent physical progress has been achieved by 16 May 2005).

Community Level

Main Issues

Water Supply: The inhabitants of Ratnanagar municipality use tubewells as their source of drinking water. The majority of households have their own private tubewells (which they have installed through their own funds). There are also 8 wells in the project area, which are located in the areas where tubewells are not functional.

The quality of the water is poor. The quantity also decreases during the dry season. Tests done by the PMO (Project Management Office) have shown the presence of bacteria. Due to this reason, it was learnt that the locals were in favour of the piped water supply systems. However, this view was only held by the well off households who could afford the membership fees (Rs 3,250). For the poorer inhabitants having access to safe water through piped

connections was not a priority. First of all they could not afford to pay the membership fees and secondly most of their needs were being fulfilled by the tubewells, regardless of the quality of water. The locals turn towards the river for extra water when the water from the tubewells is not enough.

The RSTWSSP covers ward no 1 to 4 and 7 to 13 of Ratnanagar Municipality. Ward no 5 and 6 have not been included in the project because the inhabitants , mostly squatters, could not afford to pay the initial cash contribution and also because they did not feel the need of the piped systems (the tubewells are providing sufficient water).

The project has targeted supplying piped water to 5,344 households. Every household interested to connect the water supply line should be a member of the Water Users' Association, paying membership fee of Rs 3,250. The membership fee is payable in two instalments - the first instalment is Rs 1,650 and the second instalment is Rs 1,600 (the poorer inhabitants can pay the last payment in terms of labour contribution). Till date, only 2,700 households have paid the first instalment, which is a prerequisite to the piped connections. Besides the private connections the Water Users' Association (WUA) has also passed a resolution to provide community taps (1 tap per 10 households) to landless people in the project area.[52] Similarly, the municipality and the FNCCI (Federation of Nepalese Chamber of Commerce and Industries), Chitawan are providing subsidies of Rs 1000 to 220 poor families to help them pay the membership fee. The plan is to increase the number to 500 by next year.

Sanitation: Most of the families, particularly well off, have their own private latrines. Those who don't have private latrines go to river and forest for open defecation.

The project has a policy of providing one tap and one toilet to each member household. As per the policy the project has set a target of spending 2.75% amount of the total project cost for sanitation. This amount is used to provide 50% subsidy to the poor users for constructing private latrines. Those users, who have already constructed their own latrines, are not included in this subsidy programme. It is the mostly the poor who are in need of the subsidy programs to build latrines, but because they cannot afford to pay the membership fees they are the ones who are excluded from the program.

In 2004, three hundred and thirty seven latrines were constructed under the subsidy program and in 2005255 latrines are being constructed. The project has no plans to construct any public latrines.

The TPO is running campaigns to make the public aware of health and sanitation issues in association with ENPHO, WUA members, school students and local activists. ENPHO is a non-government organisation, which has been working under the project. It organises group discussions at different communities and runs classes at schools to educate people about health and sanitation issues, including the use of safe drinking water. It also distributes pamphlets highlighting the need of proper hygiene behaviour. People reported that such activities carried out by the project have changed to some extent the behaviour of the community people.

[52] The WUA is providing community taps to landless poor people on humanitarian grounds even though it is not legally possible to provide water and sanitation facilities to them without land rights.

The most significant impact has been on the behavioural practices. People are now more aware of the fact that there should be proper disposal of waste and that they need to have clean hygienic practices.

Capacity to Pay: The majority of the local people state that the RSTWSSP is a commercial venture rather than one designed to provide greater access to safe drinking water. The locals complain that it is not pro-poor, as the membership fees are very high and only a limited number of subsidies are being provided.[53] Similarly, latrines will only be constructed in user member households, regardless of the fact that there is also the need and demand outside the project area.

The setting up of the tariff at 1 paisa per litre was decided by the WUA without consultation with the community members. The well off locals were aware of the fixed rate and were ready to pay it. The poorer habitants were on the other hand not aware and would probably not be willing to pay it.

Participation: When we talk about peoples' participation, we may have different scenario in this project. The decision of bringing the project was made by the executive board of Ratnanagar Municipality in 2058 BS without consulting the users. The municipality itself applied to the Small Town Project of DWSS requesting for the project. Meanwhile, the municipal board also formed a Water Users' Association. In the same year (2058 BS) the department decided to award the project to Ratnanagar Municipality following the request of its municipal board.

People were largely unaware of the project until the agreement between the DWSS and the WUA was actually reached. Peoples' participation was not sought before making the agreement and during the pre-feasibility, feasibility, detailed designing and tendering stages.

The project came into implementation phase with the establishment of TPO in the project site. The TPO and the WUA then started to campaign to make people aware the about the project and to collect membership fee from users. Since the users were not well informed about the project, in the beginning they expressed unwillingness to be the member of the WUA. Now that the people are being informed about the progress of the project, the number of members is also increasing gradually. However, poor people are yet to be included. Poor people complain that they have no capacity to pay the ascertained membership fee, which they consider extremely high for their standard.

Executing Agency level

Institutional Strengthening: DWSS has established a PMO to manage the project on a day-to-day basis. PMO is responsible for overall implementation and co-ordination. It has set up a TPO in Ratnanagar to co-ordinate and facilitate the field activities. The TPO works in collaboration with the municipality and the WUA. The main functions of the TPO are:

(i) Co-ordinate with the WUA and provide technical and financial support to WUA to organise trainings at the community level
(ii) Monitor the quality of construction materials
(iii) Pay attention to the quality control of infrastructure construction
(iv) Monitor and evaluate the project activities regularly.

[53] In 2004, 220 poor households were provided Rs 1000 subsidies by the municipality and the FNCCI. The plan is to increase the number to 500 by next year.

(v) Help the WUA maintain financial transaction
(vi) Provide payment to the contractors and the suppliers
(vii) Prepare project completion report

The WUA consists of 9 members, who are nominated by the municipality board. Three of the members are female. The main functions of the WUA are as follows:

(i) Hold appraisal sessions to discuss about the detailed engineering design and estimated cost of the project, and give approval.
(ii) Collect membership fee from users
(iii) Organise awareness campaigns and help NGO that has been appointed to create awareness regarding the RSTWSSP, sanitation, health and hygiene.
(iv) Monitor and maintain up-to-date records of the NGO (eg ENPHO) and consultant activities and report to the PMO.
(v) Mobilise users to provide 15% labour and kind contribution.
(vi) Pay the loan with 8% interest to the Town Development Fund (TDF) within 12 to 15 years
(vii) Supervise and monitor the performance of the contractor and monitor the quality of the materials procured for the project.

In addition, water users sub-committees have also been created in each of the wards in which the project is to be implemented (i.e. 11 wards). The main function of the sub-committees is to help the WUA organise the community people, create awareness about the project, and collect the membership fees.

Capacity Building: TPO is the main leading agency of the project in the field, which has main responsibilities to co-ordinate, facilitate and monitor field activities. It has limited number of staffs. As stated by TPO manager, they are enough and capable to carry out the mandated responsibilities. But they have not received special trained focusing on gender sensitiveness, community mobilisation, and other social issues.

During the construction phase, the main responsibility lies with the consultant. It should guide the contractor to carry out civil works as per the design. There is no complain about the competence and efficiency of the consultant, contractor and the NGO.

Co-ordination and Synergy among the Sector Players: There is a good co-ordination between TPO, WUSC and municipality. Consultant and NGO also work in co-ordination with TPO and WUSC. But there is no co-ordination between project stakeholders and the Chitawan Division Office of DWSS.

Annex 10

Consultative Meetings on ADB's Water Policy Review

As a part of the study, four consultative meetings were organized in the sample subproject areas. WATSON stakeholders including NGOs, LDO, Municipality staff, WUCs members and representatives and local users were invited to discuss issues of relevance to WSS projects. During the meetings, the study team presented the background and objectives of the ongoing study of ADB water policy review, and solicited participants' views on issues such as participation, access to information, transparency, cost recovery, serving the poor, sustainability, etc. Preliminary findings of the focus group discussions, key informant interviews and field observations were also shared.

Sites of the consultative meetings:

SN	Location	Date
1	Itahari, Sunsari	02/04/2005
2	Ratnanagar, Chitwan	10/04/2005
3	Khajura, Banke	18/05/2005
4	Birendranagar, Surkhet	20/05/2005

Brief summary of the consultative meetings are as follows:

Consultative Meeting: Itahari, Sunsari

Sanitation: Participants felt that there must be renewed focus on sanitation. The annual budget allocation in the sanitation sub-sector is about seven percent of the total budget of a divisional office. Out of this allocation, considerable share goes for the hardware part, such as the subsidy for the consultation of latrines whereas only limited focus goes to the software part. Even though the software part is more important for this sub-sector. Similarly, there must be other provisions like revolving fund, and special subsidy to encourage the poorer of the community, squatters and haphazard settlement to adapt good sanitation practices including the use of latrines.

Coordination and synergy among the sector players: The spirit of the provisions in Local Self Governance Act (LSGA) need to be better realized by the sector players if duplication of resources is to be avoided. However, there are some practical difficulties. One of the major problems is taht the DDC plans are formulated according to the Nepali fiscal year while most of the foreign donors have different system and they have limited time to execute the works. DDC lacks appropriate manpower to handle the issues effectively in timely manner. The Local Development Officer is busy in the district. Coordination with district is a time consuming process. The participants have the view that to minimize the effect of poor coordination and delays, at least the sectoral player need to inform the divisional or district level line agencies.

At the same time DDCs and VDCs programme selections are influenced by politics and they are not always able to focus on the need of the poorer section of the community and marginalized groups. Similarly there is a lot of interference from the centre and ministries to LDOs to carry out certain programme according to the interest of "order" rather than the actual need. While implementing the tube wells subprojects, the then in-charge of the project sanctioned the tube wells without the users demand. He pushed it through some of the known people of area. Similarly, UNICEF also had tube well subprojects, and when the ADB

implemented its tube well subprojects in the same area, Indrapur of Morang district, different modalities for the subprojects confused the users. In the UNICEF subprojects, all installation including that of the platform construction was part of the subprojects, while in the ADB subprojects, the community had to contribute labour to construct the platform.

Information dissemination and sharing is very poor among the stakeholders. This needs to be improved for better coordination among the sector players at the field level. The WUC, government agencies and other stakeholders need to have improved mechanism to suite the local needs and specificity.

Participation: Most of the community have no idea how, why and when they need to participate. Effective women's participation is possible only if the men could first be convinced. The number of the women members in Water Users Association should be increased to at least one third to half. Similarly, at least a couple of women should be in the decision making position. The department needs to devise the ways and means for the improved and informed participation.

Capacity building: Capacity building should be a continuous process. WUC/ VMW members need continuous support for the new challenges they face while managing the subprojects. WUC members need to realize that the divisional or district level agencies are at their service whenever necessary to support the WUC for providing any kind of support. It is not true that after the handing over of the subprojects the government agencies have nothing to do with that subproject. If the subprojects need substantial budgetary or technical support for maintenance, WUC need to inform the concerned government agency for help. The users need to be capacitated for water quality testing on iron and arsenic content. Although some programmes like that of Sunalo Bihani of World Vision is actively involved in such process, needs to be realised in other programmes too.

Sustainability: The department is always at the service of the WUC to meet the growing and diverse need of the community WATSAN subprojects. For the sustainable repair and maintenance of the subprojects, the government should contribute equal amount as that of the community so that the community members are encouraged by the government gesture. The technologies of the WATSAN need to be flexible to cater the changing need of the community. The pit latrine subprojects are no longer suitable for the community as the settlement expand. The design of the intake for the gravity subproject needs remodelling. After flash floods, the structures get washed out and the debris gets collected in the polythene pipes blocking the system. These problems need to be looked at seriously for providing sustainable service to the community. At the same time, for the easy maintenance of the subprojects, a copy of pipe layout maps should handed over to the community. It has been found that people have difficulty in locating the various joints and accessories during the repair and maintenance of the system.

The tube well subprojects are relatively less sustainable. There were problems getting spare parts such as washer and valves for regular repair maintenance earlier. But things are changing. Now such parts are available in local markets. In Indrapur, some of the tube wells installed for the Sukumbasi, the landless

community. When government decided to resettle the community to other places, those subprojects are no longer in function.

Participants have the views that that the handing over of the subprojects need to be done in phase wise manner so that the community become capable of handling the subproject in a sustainable manner.

Serving the poor: Although the project emphasizes on providing WATSAN facilities to the poorer sections of the community, it is difficult to implement. Providing water supply and sanitation services by the government agencies to the poor people having no land right is not possible. Therefore, the responsible field staffs of the project are in difficult situation. Even though the Water Users Association themselves have devised ways to deal with such a situation, like that of exempting the water tariff it is not legally binding. Therefore, there is a need of policy level intervention to deal with this situation.

The participants have the view that the state should bear the cost of supplying water and sanitation services to the poor. They are the one who are vulnerable to diseases including that of waterborne diseases.

Participation: The issue of the users participation right from the beginning of the project cycle is very crucial if there intervention is to deliver services effectively and equitably. In case of RSTWSSS project, the municipality and the office bearers took the lead to demand the RSTWSSS project. In this sense, the demand came from a small group of politically elected representatives of the municipality. The municipality council, in its general body

Names of the participants of the consultative meeting

SN	Name	Address
1	Arjun Shrestha	WUC Member, Indrapur
2	Shyan Shrestha	WSSDO, Itahari
3	Prabhakar Shrestha	District Technical office, Inaruwa
4	Lalita Lamsal	Action Group, Inaruwa
5	Dinesh Chaudary	FORWARD
6	Hira Adhikari	World Vision International
7	Parshuram Chaudary	WUC Chairperson, Jhumka
8	Ishwore Ghimire	WUC Member, Jhumka
9	Indu Nath Koirala	WSSDO, Biratnagar
10	Rashmi Sharma	RRN
11	Niraj Raut	RRN
12	Ram Chandra Kafle	WSSDO, Biratnagar
13	Kausila Magar	WUC Member, Devigaun
14	Jeet Bahadur Khaling	WUC Treasurer, Devigaun
15	Netra Prasad Bhattarai	WUC Chaiperson, Devigaun
16	Ramesh Kumar Basnet	WUC,Panbari
17	Pradeep Adhikari	IDA
18	Ansu Tumbahangfe	IDA

Consultative Meeting: Ratnangar, Chitwan

meeting, however, had endorsed such a demand. This happened without consulting the beneficiary of the municipality. After the term of the officer bearers of the municipality expired, the Users Committee was formed from among the elected representatives of the municipality. In this sense the Users Committee was like a shadow committee of the municipality.

The project covers eleven wards out of the thirteen wards of the municipality. Sukumbashi, the Squatters inhabit the two wards that were excluded from the project. At the ward level, Users Sub-Committees were formed. But this measure is also not able to affect the participation at the ward level. Large numbers of the households are not aware about the project and its possible benefits. Although the Main Users Committee and Sub-Committee members have made public the workings of the committee itself and the status of the project at Municipality council, they have not been able to organise public meetings at each wards. This has

affected the project seriously. Only 50% of the households, about 2700 out of the total households of 5400 have contributed upfront cash so far. Rests are not willing to have the household connection at all. The majority of the participants feel that the request for the household connection came from the users on a personal request of the WUC members or from the relatives of the WUC members only. Some of the participants have the view that only less than 70 percent municipality resident have some idea about the project and its components.

The users are still not properly informed about the cash and kind contribution that they need to make for the project. At the same time they are not well informed about the fact that RSTWSSSP is being implemented with the financial assistance of the Asian Development Bank on 50:50 basis. The consumers need to contribute for half the cost of the project through cash and kind contribution and a loan from the Town Development Fund (TDF).

Cost recovery: As mentioned earlier, the municipality users are unaware about arrangement of the finance for the project. The participants have the view that the estimated cost of the project, which is around 10 crore is very high in comparison with the municipality resident's capacity to pay. The construction cost is going to be higher than 10 crore as there have been price escalations.

The participants feel that the 50:50 concept for the project finance is very ambitious. They feel that the ratio of 60 percent (from ADB) and 40 percent from the users would have been more justified. They also feel that the interest rate (8% per annum) for the loan arranged from the TDF is high. They have the opinion that rather than coming through the TDF, why the government could not flow loan through the municipality. This could have reduced the interest rate ultimately minimising the financial burden of the common people. The participants have the view that it is absolutely necessary to categorize the possible users and charge differently for the use of water. At the same time, they feel that it is the responsibility of the government to provide basic need of water to the poorer sections of the community.

As mentioned earlier, the users are not well informed about the financial contribution they need to make for the project. Hardship factor is not the major issue for the people of this locality; rather it is the water quality. This has been the major impact on the number of households that are willing to have the water supply connection. The project office including the Users Committee is so far not able to instigate this aspect to the community. As the number of the households willing to have connection halved, the Users Committee finds itself in awkward situation to ask for the additional contribution from the users who have already made their cash contribution.

Governance (Transparency): The participants opined that the Users Committee has not been effective in providing correct information to the prospective users. Especially regarding the contribution that they need to make to have the household connection. This is one of the reasons for having approximately half the number of the household connection request so far. As the general body meeting has not constituted the users committee, the legality of the committee and its sub-

committee (at ward level) is in serious question. Some of the members of the committee itself voice such concern. Nevertheless, majority of the committee members seems committed to fulfil the obligation of the users committee for the successful implementation of the project.

It is mentioned that the decision making process with regards to the project implementation is a time consuming one. This has made the working of the contractor difficult. It takes a long time to give decision to the contractor if any alteration is needed at the site. The TPO and the consultant's site engineer have no authority to give decision at site as and when needed. They can only make their recommendation to the Project Management Office located at the Department office in Kathmandu.

As the Users Committee office is also located in the Town Project Office, symbolically, common people have better access to raise their concern and needs at the TPO than at he PMO.

Pro-poor: As mentioned earlier, the project has excluded the two wards of the municipality. The majority of the inhabitants of these wards are the squatters. This suggests that the project is not sensitive towards the poor and marginalized group. Providing water supply and sanitation services by the government agencies to the poor people having no land right is legally not possible in Nepal. The TPO and the WUC is in dilemma. However, people associated with the issue are of the opinion that community level services could be provided through not point services.[54]

With the poor people living in the rest of the wards, say for example, at ward no.

Names of the participants of the consultative meeting:

SN	Name	Address
1	Lila Pd. Dhakal	TPO Managers, Ratnanagar, STWSSSP
2	Sitaram Pokherel	Accountant, Ratnanagar Municipality
3	Shashibhakta Khanal	WUA Vice-chairperson, Ratnanagar STWSSSP
4	Haribilas Khanal	Social Worker and Convenor of Drinking Water Sub-committee, Ratnanagar
5	Nirajan Malla	Advisor, Ratnanagar STWSSSP
6	Sammar Malla	Advisor, Ratnanagar STWSSSP
7	Keshab Narayan Shrestha	WUC Chairperson, Ratnanagar STWSSSP
8	Kamalika Ghimire	WUC member, Ratnanagar STWSSSP
9	Ram Nath Shrestha	WUC member, Ratnanagar STWSSSP
10	Bimala Shrestha	WUC member, Ratnanagar STWSSSP
11	Ramesh Poudel	WUC member, Ratnanagar STWSSSP
12	Geeta Dhakal	ENPHO
13	Mahadevi Khatiwada	WUC member, Ratnanagar STWSSSP
14	Purna Prasad Adhikari	WUC member, Ratnanagar STWSSSP
15	Rashi Bhakta Chaudary	WUC member, Ratnanagar STWSSSP
16	Rishi Ram Poudel	WUC member, Ratnanagar STWSSSP
17	Shardha Bhattarai	WUC member, Ratnanagar STWSSSP
18	Shubash Baral	Contractor, Lama Santoshi Tundi (JV)
19	Narayan Ban	TPO officer, Ratnanagar STWSSSP
20	Dhurba Shrestha	I CON- CMS
21	Sudhindra Sharma	IDA
22	Pradeep Adhikari	IDA
23	James Wicken	WaterAid Nepal

11 the WUC have decided to provide some community tap stands (serving 10 households each) targeting to the poor. The participants expressed that the state has the responsibility to provide drinking water to the poor and weaker section of the society. But in RSTWSSSP, this has not been the case. They strongly feel that the financial contribution that they need to make is too high for the majority of the municipality dwellers.

Consultative Meeting: Khajura, Banke

Sanitation: There was no sanitation component of he ADB supported subprojects in Khajura. According to an ex-WUC chairman, at the time of the feasibility of the project the committee had approached the designers and the DWSO staff with the request to include a sanitation component, but nothing was

[54] Interview with Mr. Dhanendra Raj Sharma, former member of the Sukumbasi Ayog, July 25, 2005.

finalized and implemented. The majority of the inhabitants of Khajura do not have access to well managed private latrines, the poor and marginalized are especially suffereing. The DWSO located at Nepaljung, has started a program whereby subsidies are provided to the community for the construction of private latrines, however, according to the locals the number of latrine rings distributed is not enough and many households have not received any help. Awareness campaigns are being carried on but it has been due to the efforts of the local community people, especially women's groups. Support is needed from the government to provide subsidies for the construction of latrines.

Participation: Participation of the local community should be sought from the initial stages of the projects implementation. The WUC members point out that during the design stage their help should have been sought. They maintain that, participation helps create a feeling of ownership, which help to maintain the functioning of the system. The issue of women's participation was also raised during the meeting. Some of the local users and women's groups were of the opinion that women , except the mandatory two members were not encouraged to become part of the committee or were not given votes during the elections because, "the men do not think that women can handle the functioning of the system".

Sustainability: The sustainability of the system depends upon various factors. Support of he DWSO is very important to help the WUC maintain the functioning of the system. The WUC members pointed out that they do not always have the necessary technical skill to keep the functioning of he systems and so require the constant support of the DWSO staff for the maintenance of the system.

Transparency: One of the issues that was raised during the meeting was the issue of the need of the WUC committee to be transparent in financial matters. The major comment was that all the project activities should be transparent. To maintain the effective mechanism of transparency, information dissemination and people participation should be encouraged.

Names of the participants of the consultative meeting:

SN	Name	Address
1	Uttam Gimire	WUC Chairperson, Khajura
2	Arjun Singh Pandey	WUC Vice chairperson, Khajura
3	Uday Bahadur Karki	WUC Finance secretary, Khajura
4	Mann Nath Dubadhi	WUC member, Khajura
5	Daya Ram Dhubadi	WUC member, Khajura
6	Kamal Dev Gurung	WUC member, Khajura
7	Tika Sapkota	WUC member, Khajura
8	Mam Kumari Dhakal	WUC member, Khajura
9	Kismat Kumar Khachyapati	Former WUC Chairperson, Khajura
10	Dhana Shyam Niraula	WUC Advisor, Khajura
11	Shiva Raj Shrestha	WUC Advisor, Khajura
12	Meena Shrestha	Female Health worker, DWSO Nepaljung
13	Keshab Shakya	DWSO, Nepaljung
14	Kumar Silwal	NEWAH
15	Sudhindra Sharma	IDA
16	James Wicken	WaterAid Nepal

Consultative Meeting: Birendranagar, Surkhet

Participation: Users' participation should be sought right from the beginning of the project cycle. To increase the participation of poor people in the project activities, information dissemination and incentive subprojects are needed. If users are not well informed about the project activities, they will not have any interest in the project. Consequently, the participation of the people in project activities becomes low and ineffective. Similarly, poor people can not participate in project activities if there is no

incentives, because they have to go for labor, which is their only livelihood for survival. The project should have special policy to increase the poor people's participation in the project activities.

Information dissemination: Information dissemination is crucial to increase the people's participation in the project activities and also to maintain transparency. Dissemination of accurate information plays an important role for the success of the project. In BSTWSSP, information about the project activities is disseminated by organizing meetings at communities. An NGO has also been employed for information dissemination and community mobilization. But some participants said that the information of the project activities is not disseminated to the communities correctly and in time. Most of the users, mostly poor communities, are unaware about the project activities. Information dissemination system is weak in Jarbuta Drinking Water System too. There should be an effective mechanism to disseminate the right information to the communities in right time.

Cost recovery: The cost of the project is high. If the project could not be completed in time the cost will go even higher. The WUC will have to face serious challenge in recovering the cost and paying the loan. Municipality is the guarantor of the loan but it has no capacity to pay the loan if the project could not recover the cost. Interest rate of the loan is also high (8 per cent per annum). The participants feel that it should be cut down to 3 percent. They also feel that the portion of the grant should be increased. And, the process of releasing fund/loan through TDF should be reviewed.

Serving the poor: Cost recovery and serving the poor are two contradictory provisions. The project is not able to serve the poor as mentioned in the ADB water policy because it has to recover the cost and be able to pay loan with 8 per cent interest. If the provision of serving the poor is to be implemented in an effective way, the matter of cost recovery should be left out. There should be a special policy or positive biased policy in relation to serving the poor. If there are no special policy or procedures for serving the poor, well off people will get undue opportunities to take more benefit.

Sustainability: WUC is hopeful that the project would be sustainable. Sustainability depends on users' satisfaction and support of all stakeholders.

Names of the participants of the consultative meeting:

SN	Name	Address
1	Rekha Shreesh	DFID/CSP
2	Krishna Prasad Paudel	EDS
3	Mohan K. C.	Energy Development Centre
4	Ram Prasad Gautam	GeYC, Nepal
5	Hukum Pokhrel	National Trachoma Programme
6	Shubha Devi B. K.	DFID/CSP
7	Binod Dhakal	Jarbuta Subproject
8	Bhoj Prasad Chapain	Jarbuta Subproject
9	Sudhindra Sharma	IDA
10	Sujan Ghimire	IDA
11	Shiva Bisangkhe	IDA
12	James Wicken	WaterAid
13	Bala Ram Sharma	Jhupra WUSC
14	Bhoj Bikram Thapa	TPO, Birendranagar
15	Amrita Adhikari	WARM
16	Shankar Paudel	DDC, Surkhet
17	Kul Mani Devkota	Jhupra RVT 3
18	Ganga Prasad Acharya	Jarbuta Subproject
19	Bashu Dev Paudel	DWSS/ RMSO, Surkhet
20	Santosh K. Pokharel	WE Link/ Jhupra
21	Maheshwor Tiwari	J. D.
22	Bhagawati Lamsal	CYDS, Surkhet
23	Akhanda Sharma	DTO, Surkhet
24	Chok Prasad Paudel	Birendranagar Municipality
25	Hari Prasad Dhakal	Jarbuta Subproject

Annex 11

List of Key Informant Interviews

SN	Name	Office	Date
1	Mr. Rajesh Singh	Project Head of STWSSSP	9th March 2005, 30th May 2005
2	Mr Diwakar Dhakal	STWSSSP	9th March 2005
3	Mr. Netra Prasad Bhattarai	WUC Chairperson, Panchakanya	22nd March 2005
4	Mr. Jit Bahadur Khaling Rai	WUC Treasurer, Panchakanya	22nd March 2005
5	Mr. Parshuram Chaudary	WUC Chairperson, Jhumka	24th March, 2005
6	Mr. Arjun Shrestah member, Indrapur	Central Committee	23rd March 2005
7	Mr. Ramesh Maskey	Overseer, WSSDO Ithari	25th March, 2005
8	Mr. Lila P. Dhakal	STWSSSP, Ratnanagar	16th April, 2005
9	Mr. Shashi Bhakta Neupane	WUA Vice-chairperson, STWSSSP, Ratnanagar	17th April 2005
10	Mr. Sitaram Pokherel Municiplaity	Accountant, Ratnanagr	17th April 2005
11	Mr. Haribilas Khanal convenor of Drinking Water Sub-committee, Ratnanagar	Social worker and	17th April 2005
12	Mr. Kashkapati Shrestha	Former WUC Chairperson, Khajura	11th April, 2005
13	Mr. Uttam Ghimire	Chaiperson, Khajura	11th April, 2005
14	Ms. Tika Sapkota	WUC member	11th April, 2005
15	Mr. Bhoj Bikram Thapa Birendranagar, Surkhet	TPO Manager,	15th May, 2005
16	Mr. Cok Pd. Poudel Birendranagar Municipality	Executive chief,	15th May 2005
17	Mr. Balaram Sharma Birendranagar, Surkhet	Chairperson Jhupra WUA,	15th May, 2005
18	Ms. Anita Koirala	WUA member, Jhumpra	16th May, 2005
19	Mr. Basudev Poudel	Municipality, Ratnanagar	16th May, 2005
20	Mr. Bal Krishna Budha Cheetry	WUA advisor, STWSSSP, Birendrananagar	17th May, 2005
21	Mr. Rajesh Singh	Project Head of STWSSSP	30th May 2005
22	Mr. Mishri P. Shrestha Consultants, STWSSSP	Project Implementing	30th May 2005
23	Mr. Narayan P. Rimal Consultants, STWSSSP	Project Implementing	30th May 2005
24	Mr. Chiranjevi B. Thapa Consultants, STWSSSP	Project Implementing	30th May 2005
25	Mr. Lalit Basnyat, of CBWSSSP	Deputy project manager	7th June 2005
26	Ms. Laxmi Shrama Resident Mission, ADB	Project Officer, Nepal	13th June 2005
27	Mr. Harkha B. Chettry	TDF	13th June 2005
28	Mr. Jagat Basnayt	New Era	7th June 2005
29	Mr. Dhanendra Raj Sharma, (Commission for Squatters)	Former member of the Sukumbasi Ayog	25th July 2005.
30	Mr. Kul Ratna Bhurtel	Former secretary of WECS	11th August 2005

Annex 12

Study of the Effectiveness of ADB Supported Water and Sanitation Projects in Nepal (2005)

Survey Report

1.Methodology

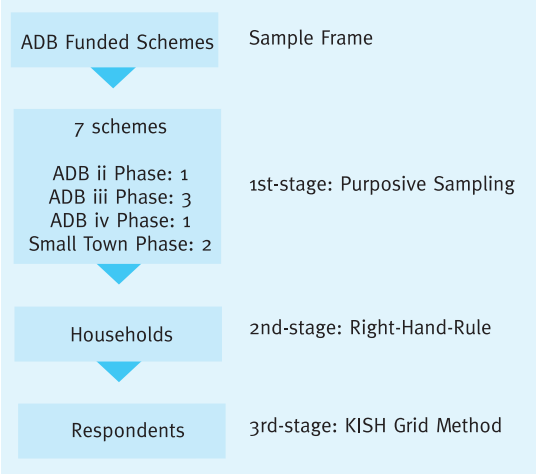
1.1 Questionnaire

Final draft of a structured questionnaire was formulated in consultation with Water Aid and other South Asian consultants. Pre-test of the draft questionnaire was conducted in a sub-project called Salakpur located in Morang district. After getting feedback from the pre-test, the questionnaire was finalized. The questionnaire was first prepared in the English language and then translated into Nepali. The Nepali version was used for the interview in the field.

1.2 Sampling Technique

In the first stage of sampling, seven sub-projects were selected out of the total list of ADB funded sub-projects employing purposive sampling technique. (Since the selection criteria for identifying these sub-projects have been elaborated in the first chapter of the main report, these are not discussed in detail here). From these seven sub-projects, 418 households in total were selected randomly in the sample. Distribution of the sample households across the seven sub-projects were based on proportional allocation i.e., larger numbers of households were selected from larger sub-projects and vice-versa. In the second stage, the right-hand-rule was adopted in identifying the households from the sample sub-projects. Respondents from the selected households were chosen employing the KISH grid technique in the third stage. In this technique, every member of the selected household has an equal chance of being selected - irrespective of his or her sex or age. Household members at the age between 18 and 65 were allowed to participate in the survey. The selected members of households were interviewed using a prepared interview schedule.

Figure 1.1: Flow Chart of the Sampling Technique



1.3 Fieldwork/Data Collection

Fourteen local people were employed as enumerators during the fieldwork. Out of them, 6 enumerators (4 female and 2 male) were deployed in eastern part of Nepal, 1 enumerator for the central division and 7 enumerators (5 female and 2 male) western region. Before deploying in the field, the enumerators were trained on the survey research methodology, their roles and responsibilities and field operations plan in local stations. They were briefed about the structured questionnaire in order to make them familiar with the intentions of each question. They were also instructed about how to add clarification to a question and encourage the respondents if they were confused or hesitant to

answer during the interview. They administered the questionnaires in March in eastern part and in May in western part. Researchers from IDA supervised their work.

1.4 Data Management and Analysis

Data was processed and analyzed using MS Access and SPSS softwares. A questionnaire oriented data entry programme was first created using the MS Access software. In order to ensure that the data remains clean and consistent, legal codes, authorized range check, consistency check and extreme case check systems was developed in the data entry programme. After data entry, the data was imported in the SPSS software. In order to ensure the quality of the data, cross-tabs between the inter-related variables to find the inconsistency and frequency tests of the several variables to check extreme case check were performed. Once the data cleaning process was completed, the data was analysed and presented in a tabular form using the SPSS software.

1.5 Measurement of Poverty Level

Poverty level of the households in this survey was determined on the basis of ownership of land-holdings. The households which owned lands were considered as non-poor while the households without lands were identified as poor. Out of the total sample households, the households under poor category made 29 percent and that under non-poor category made up 71 percent. Recently in December 2004, the government of Nepal published Nepal Living Standards Survey (hereafter NLSS 2004) in which the living standards measurement was primarily based on the family consumption expenditure. The family consumption expenditure was computed by summing up expenditures made for food and non-food items (i.e., housing, clothes, medicine and education) based on the then market price. Poverty line computed for urban area of Kathmandu valley is Rs. 11,057 which is the highest and that for Eastern rural Tarai is estimated to be Rs. 6,079 which is the lowest. A family that spends aforesaid amount of money or more than this in a year in the respective region is considered to be non-poor while a family that spends less than this amount is identified to be poor. The following table shows the breakdown of the poverty line by region.

Another indicator taken into account was amount of calorie required for a person. Average per capita calorie per day required is 2,144 calories. The NLSS 2004 report shows that proportion of people living below the poverty line is reduced to 31 percent (in 1996, it was 42 percent). We could not employ the same technique to determine the living standards of our sample households as we did not collect the relevant data to follow the technique. Our technique was based simply on land ownership. The following table shows the distribution of poverty across the different regions as identified by NLSS 2004.

Table 1.1: Distribution of Poverty Line by Region in 2003/2004 in Rs

Region	Food	Non-food	Total
Kathmandu valley (urban)	6,722	4,335	11,057
Other urban areas	4,919	2,982	7,901
West hill/mountain rural	5,613	3,288	8,901
East hill/mountain rural	5,311	2,758	8,070
West tarai rural	4,308	3,110	7,418
East tarai rural	4,323	1,756	6,079

Source: NLSS 2004

Table 1.2: Distribution of Poverty by Region

Region	Poor (%)	Non-poor (%)
Nepal	30.8	69.2
Kathmandu valley (urban)	3.3	96.7
Other urban areas	13.0	87.0
West hill/mountain rural	37.4	62.4
East hill/mountain rural	42.9	57.1
West tarai rural	38.1	61.9
East tarai rural	24.9	75.1

Source: NLSS 2004

According to our survey based on the criteria of land-ownership, the distribution of poverty across the different sub-projects is as follows:

Table 1.3: Distribution of Poverty by Sub-project

Region	Poor (%)	Non-poor (%)
Total Sample	29.0	71.0
Indrapur	40.4	59.5
Ratnanagar	8.3	91.7
Panchakanya	34.0	66.0
Jhumka	20.0	80.0
Khajura	30.2	69.8
Jarbuta	44.3	55.7
Birendranagar	28.6	71.4

Source: IDA Household Survey 2005

Our household survey reveals that significant proportions of non-poor households have their private tap stands (26 percent) and private tube wells (25 percent) while majority of the poor households depends on public tube wells (49 percent). About 74 percent of the non-poor households have access to well-managed private latrines while 56 percent of the poor households do not have the access.

Table 1.4: Do you use the ADB-sub-project water for all household activities? by Poverty

	Poor (%)	Non-poor (%)
Yes	77.4	62.7
No	22.6	36.5
DK/CS	0.0	0.8
Total	100.0	100.0

2. Sample Characteristics

2.1 Geographic Composition

A total of 418 households were sampled. Distribution of the sample households across districts was as follows: 60 in Chitawan, 49 in Morang, 101 in Sunsari, 47 in Banke and 161 in Surkhet. Out of them, 49 households belong to Indrapur sub-project, 60 households belong to Ratnanagar, 50 belong to Panchakanya, 51 belong to Jhumka, 47 belong to Khajura, 62 belong to Jarbuta and 99 belong to Birendranagar.

Table 2.1: Distribution of the Sample by Districts and Sub-project

District	Sub-project	No. of HH
Chitawan	Ratnanagar	60
Morang	Indrapur	49
Sunsari	Panchakanya	50
	Jhumka	51
Banke	Khajura	47
Surkhet	Jarbuta	62
	Birendranagar	99
Total		418

Out of the sample households, 51 percent were located in Tarai region and 49 percent were located in the hills.

Table 2.2: Distribution of the Sample by Ecological Region

Ecological Region	Percent
Hill	49.0
Tarai	51.0
Total	00.0

2.2 ADB Project Phase and System Composition

The sampled households desegregated by the ADB project phase, 62 households were from ADB II project (Jarbuta), 146 households from ADB III project (Panchakanya, Indrapur and Khajura), 51 households from ADB IV project (Jhumka) and 159 households from Small Town project (Ratnanagar and Birendranagar).

Table 2.3: Distribution of the Sample by Project Implementation Phase

Project Phase	Sub-project	No. of HH
ADB II	Jarbuta	62
ADB III	Indrapur, Panchakanya, Khajura	146
ADB IV	Jhumka	51
Small Town	Ratnanagar, Birendranagar	159
Total		418

Going by type of the sub-projects, 210 households were gravity-flow system, 159 households were pumped system and 49 households were tube wells or dug wells types.

Table 2.4: Distribution of the Sample by Type of Sub-project

Type of Sub-project	No. of HH
Gravity-Flow System	210
Pumped System	159
Tube Well/Dug Well	49
Total	418

2.3 Demographic Composition

Out of the total sample of 418 respondents, 220 (53 percent) were female and 192 (47 percent) were male.

Table 2.5: Distribution of the Sample by Sex

Sex	Percent
Female	53.4
Male	46.6
Total	100.0
	(N = 418)

Note: N stands for total number of respondents

Age group distribution of the respondents showed that 28 percent belonged to age group 25 and below followed by 26-35 age group (26 percent) and 36-45 (25 percent). Respondents of age 46 and above were fewer in number (21 percent).

Table 2.6: Distribution of the Sample by Age Group

Age Group	Percent
25 and below	27.7
26-35	26.0
36-45	24.8
46-55	11.9
Above 55	9.7
Total	100.0
	(N = 418)

2.4 Social Composition

Majority of the respondents belonged to Bahun/Chhetri caste (52 percent) followed by hill Dalits (18 percent), hill Janjati (15 percent) and Tarai Brahman/ Rajput (5 percent). Other communities were few in number.

Table 2.7: Distribution of the Sample by Caste/Ethnicity

Caste/Ethnicity	Percent
Bahun/Chhetri	52.3
Hill Dalits	17.9
Hill Janjati	15.3
Tarai Brahman/Rajput	4.9
Muslim	3.4
Tarai Dalits	3.1
Newar	1.3
Tarai Vaishya	1.0
Tarai Janajati	0.5
Himalayan People	0.3
Total	100.0
	(N = 418)

Looking at the sample by religious affiliation, almost 95 percent of the respondents were Hindu.

Table 2.8: Distribution of the Sample by Religion

Religion	Percent
Hindu	94.5
Buddhist	2.4
Christianity	1.7
Islam	1.0
Kirat	0.5
Total	100.0
	(N = 418)

2.5 Educational Status

Majority of the respondents were literate but without formal education (32 percent) followed by illiterate (18 percent) and those who have passes secondary level (18 percent) and intermediate level (12 percent).

Table 2.9: Distribution of the Sample by Educational Status

Educational Status	Percent
Illiterate	18.0
Literate but no formal education	32.0
Primary level	7.0
Lower secondary level	7.2
Secondary level	17.8
Intermediate level	12.3
Bachelor's level	5.5
Master's level and higher	0.2
Total	100.0
	(N = 418)

2.6 Main Source of Livelihood

Most of the respondents practice agriculture as the main source of livelihood (44 percent) followed by business (20 percent), labour (18 percent) and service (16 percent).

Table 2.10: Distribution of the Sample by Source of Livelihood

Source of Livelihood	Percent
Agriculture	44.2
Business	20.1
Labour	18.0
Service	15.8
Others	1.9
Total	100.0
	(N = 418)

3. Findings of the Survey

3.1 Water Supply

The main sources of drinking water in the study were public tap stands (35.8 percent), private tap stands (21.9 percent) and private tube wells (20.7 percent). In terms of different sub-projects, most of the households in Indrapura depend on public tube wells (90 percent) while people in Panchakanya and Jarbuta have been drinking water from public tap stands (100 percent and 98.4 percent respectively). Majority in Ratnanagar get water from private tube wells (86.7 percent) while majority in Jhumka have access to water from private tap stands (84 percent). People in Birendranagar depend on various sources of water such as public tap stands (35.4 percent) and private tap stand (29.3 percent).

Going by poverty, majority of non-poor people get water from private water sources while poor people depend on public water sources.

Table 3.2: Main source of drinking water by Poverty

Source	Poor (%)	Non-poor (%)
Public tap stand	48.7	31.9
Private tap stand	12.0	26.3
Public tube well	17.1	8.8
Private tube well	11.1	24.6
Public dug well	4.3	2.5
Private dug well	6.8	3.9
Projected spring	0.0	1.1
Unprotected Spring	0.0	1.1
Total	100.0	100.0

Only 52 percent of the households included in the survey depend on the ADB funded water supply sub-projects. The situation is different across the

Table 3.1: Main source of drinking water by Sub-project

Source	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Public tap stand	-	-	100.0	6.0	-	98.4	35.4
Private tap stand	-	-	-	84.0	43.5	-	29.3
Public tube well	89.8	11.7	-	-	-	-	1.0
Private tube well	8.2	86.7	-	10.0	54.3	-	-
Public dug well	2.0	-	-	-	2.2	1.6	9.1
Private dug well	-	1.7	-	-	-	-	18.2
Projected spring	-	-	-	-	-	-	3.0
Unprotected spring	-	-	-	-	-	-	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.3: Dependence on ADB supported scheme by subproject

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	100.0	-	64.0	90.2	47.7	67.7	18.2
No	-	97.9	-	9.8	52.3	-	78.8
Don't know	-	2.1	36.0	-	-	32.3	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

seven different study sub-projects. For instance, all of the households in Indrapur use water from the ADB funded sub-project. This percentage is 90, 68 and 64 in Jhumka, Jarbuta and Panchakanya respectively. Clear majority in Ratnanagar and Birendranagar do not use water from the ADB funded sub-project (98 percent and 79 percent respectively). The ADB funded sub-projects is under construction in Ratnagar and Birendranagar.

Even though majority of both poor and non-poor households mention that the sources they depend for water supply are constructed by the ADB fund, proportion who professes ignorance on this matter is significant among poor households (18 percent).

Table 3.4: Dependence on water supply constructed by ADB fund by poverty

	Poor (%)	Non-poor (%)
Yes	56.3	48.9
No	25.9	43.1
DK/CS	17.9	8.0
Total	100.0	100.0

Before the ADB funded sub-project was introduced, it took 32 minutes, in total average, to fetch water (i.e., go, wait, collect and return) during dry seasons. During wet seasons, people had to spend 28 minutes, in total average, to fetch water. In other words, the length of fetching time duration was not very different in dry and wet seasons before the sub-project was introduced.

Table 3.5: Fetching time length before the sub-project was introduced (in min.)

Sub-project	Dry Season	Wet Season
Total Average	32	28
Indrapur	27	27
Panchakanya	32	30
Jhumka	7	8
Jarbuta	74	63

Note: No data available for Khajura and Ratnanagar. Birendranagar sub-project is in the implementing stage.

Poor households had suffered more than their non-poor counterparts before the project was introduced. In dry and wet seasons, people from poor households had to spend 42 minutes and 35 minutes respectively to fetch water and come back while people from non-poor households had to spend 27 minutes and 26 minutes respectively.

Table 3.6: Fetching time length before the sub-project was introduced (in min.)

Poverty	Dry Season	Wet Season
Total Average	32	28
Poor	42	35
Non-poor	27	26

After the ADB funded sub-project was introduced, it takes only 11 minutes, in total average, to fetch water during dry seasons. During wet seasons, people have to spend 8 minutes, in total average, to fetch water. So, the length of fetching time is not very different in dry and wet seasons after the sub-project was constructed. In both seasons, it is quite low. The ADB-sub-projects have generally been successful in reducing drudgery, which is one of the prime objectives of the ADB water supply projects.

Table 3.7: Fetching time length after the sub-project was introduced (in min.)

Sub-project	Dry Season	Wet Season
Total Average	11	8
Indrapur	9	9
Panchakanya	8	5
Jhumka	4	4
Jarbuta	28	17

Note: No data available for Khajura and Ratnanagar. Birendranagar sub-project is in the implementing stage.

After the implementation of the projects as the following table reveals drudgery has been reduced for both poor and non-poor households. Fetching time length is not significantly different between them.

Table 3.8: Fetching time length after the sub-project was introduced (in min.)

Sub-project	Dry Season	Wet Season
Total Average	11	8
Poor	13	10
Non-poor	11	7

Majority of people in the study sub-projects (68 percent) use the ADB-sub-project water for all household activities.

Table 3.9: Use of ADB subproject water for household activities

	Percent
YYes	67.7
No	31.8
DK/CS	0.5
Total	100.0

Situation in this regard varies significantly across the different sub-projects. Most of the people in Jhumka (89 percent) are not using water from the ADB funded sub-project for many household activities. All of the households in Panchakanya and Khajura use water from the ADB funded sub-project for all household activities. Majority in Jarbuta and Indrapur also use the ADB-sub-project water for all household activities. Since the sub-projects are under construction in Ratnanagar and Birendranagar, this analysis has not been performed for these sub-projects.

People who do not use the ADB-sub-project water for all household activities were further asked to express reasons for that. Majority of the people in the study sub-projects mention that it is due to low quality (40 percent) followed by other reasons (29 percent) that include insufficient water supply by sub-project, system out of order and drying up of source.

Public response to this question vary significantly different across the poverty line. The mostly pronounced reason of not using the ADB-sub-project water for all household activities among non-poor households is low quality (48 percent) while that among poor households is insufficient supply, non-functioning of system or drying up of source (43 percent).

Table 3.10: Reasons for not using the ADB-sub-project water for all household activities by poverty

	Poor (%)	Non-poor (%)
Financial	7.1	2.2
Alternative sources are available for other activities	14.3	19.6
Alternative sources are closer than ADB-sub-project	14.3	10.9
Low quality	21.4	47.8
Others	42.9	19.6
Total	100.0	100.0

A supplementary question was asked whether the water supply is sufficient to meet all of the domestic needs. Most of the people in the sample sub-project (54 percent) mention that water supply is sufficient to meet all of their domestic needs. Going by the sub-projects, most of the people in Panchakanya (96 percent) and Khajura (82 percent) think

Table 3.11: Sufficiency of water supply sufficient to meet all of your domestic needs?

	Sub-project (%)					
	Indrapur	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	57.1	95.9	12.8	82.4	51.6	47.4
No	42.9	4.1	87.2	17.6	48.4	51.5
DK/CS	-	-	-	-	-	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: DK/CS stands for 'Don't know/cannot say'.

that water supply is sufficient to meet all of their domestic needs while only little more than half of the people in Indrapur (57 percent) and Jarbuta (52 percent) think so. But most of the people in Jhumka think in the opposite way (87 percent).

No significant different views are observed across the poverty level of households.

In general, water from the ADB-sub-project is not sufficient for activities like washing clothes, bathing and irrigating bari (kitchen garden). If we dis-aggregate by the sub-project, it is identified that majority in Jhumka think that water from the ADB sub-project is not sufficient for drinking, preparing and cooking foods, bathing and washing clothes. Significant proportion of the people in Indrapur sat that water quantity from the ADB-sub-project is not sufficient for washing clothes, drinking and bathing. Many people in Jarbuta find the water quantity insufficient for irrigating bari, washing clothes and bathing while same holds true among the Birendranagar residents.

Views do not deviated from the general trend if one disagregates the data by poverty.

Table 3.12: Household activities for which water supply is not sufficient

	Sub-project (%)			
	Indrapur	Jhumka	Jarbuta	Birendranagar
Drinking	15.4	51.3	1.2	1.9
Preparing/cooking foods	13.8	22.4	-	0.6
Bathing	15.4	6.6	17.6	20.6
Personal ablutions	12.3	1.3	8.2	1.9
Washing clothes	21.5	18.4	18.8	29.0
Washing utensils	1.5	-	1.2	5.2
Feeding the cattle	6.2	-	17.6	21.3
Religious purposes	-	-	10.6	2.6
Irrigating bari	12.3	-	24.7	16.8
Others	1.5	-	-	-
Total	100.0	100.0	100.0	100.0

Table 3.13: How do you adjust to water-insufficiency problems?

	Sub-project (%)			
	Indrapur	Jhumka	Jarbuta	Birendranagar
Use less water	20.0	2.4	43.3	43.8
Use other sources of water	75.0	97.6	33.3	39.6
Buy water	-	-	-	2.1
Re-use of used water	5.0	-	23.3	14.6
Total	100.0	100.0	100.0	100.0

Among those who think that they have insufficient supply of water from the ADB-sub-project, most of them use other sources of water to solve these problems (59 percent). Significant proportion of people copes with this problem by using less water (30 percent). Most people in Jhumka and Indrapur use other sources of water to resolve the situation (98 percent and 75 percent respectively). Majority in Jarbuta and Birendranagar prefer to use less water to get rid of water insufficiency (43 percent and 44 percent respectively).

Poverty level of the households does not significantly influence the general view. However, proportion of those who use other sources of water is higher among the non-poor group than among poor group (63 percent against 50 percent).

Looking at the information by rural/urban sub-project, it is found out that majority

of rural dwellers use other sources of water (68 percent) while urban dwellers say they tend to use less water (43 percent) as a response to water scarcity.

Table 3.14: How do you adjust to water-insufficiency problems?

	Rural/Urban Sub-project (%)	
	Rural	Small Town
Use less water	23.5	42.6
Use other sources of water	68.4	40.4
Buy water	-	2.1
Re-use of used water	8.2	14.9
Total	100.0	100.0

The survey reveals that majority people use public tube wells as alternative sources of water (38 percent) followed by protected well (15 percent) and piped water (13 percent).

Table 3.15: Alternative sources of water

Alternative Sources	Percent
Public tube well	37.7
Protected well	15.4
Piped water	13.1
Surface water	10.9
Unprotected well	9.1
Protected spring	4.0
Others	4.0
Unprotected well	3.4
Private tube well	1.7
Water vendor	0.6
Total	100.0

Most of the people in Jhumka (93 percent) and Indrapur (60 percent) depend on public tube wells as an alternative source of water. It is worth-mentioning that most of the people in Jhumka have also installed private tube wells because of the poor quality of the ADB-sub-project water. In Khajura, people use piped water as an alternative source of water (86 percent). Many people in Jarbuta use both protected and unprotected tube wells as the alternative sources while many people in Birendranagar use protected well and surface water.

There is no significant difference across the poverty level.

The survey also divulges that water insufficiency is not only the reason to use alternative sources of water. It is seen that there are some other reasons that make people to look for alternative sources. In the survey, 68 percent tell that there are reasons other than insufficiency to use alternative sources.

Table 3.17: Are there any reasons other than insufficiency to use alternative sources?

	Percent
Yes	68.3
No	27.5
DK/CS	4.2
Total	100.0

Table 3.16: Alternative sources of water by Sub-project

	Sub-project (%)				
	Indrapur	Jhumka	Khajura	Jarbuta	Birendranagar
Piped water	-	-	86.4	-	8.9
Protected well	3.3	2.3	-	27.6	37.8
Protected spring	3.3	-	-	3.4	11.1
Unprotected well	6.7	-	-	27.6	13.3
Unprotected well	-	-	-	13.8	2.2
Surface water	3.3	-	-	20.7	26.7
Water vendor	-	-	-	3.4	-
Private tube well	6.7	-	-	3.4	-
Public tube well	60.0	93.0	13.6	-	-
Others	16.6	4.7	-	-	-
Total	100.0	100.0	100.0	100.0	100.0

Table 3.18: Reasons other than insufficiency to use alternative sources by sub-project

	Sub-project (%)				
	Indrapur	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	90.5	97.7	66.7	57.1	13.0
No	4.8	2.3	33.3	42.9	73.9
DK/CS	4.8	-	-	-	13.0
Total	100.0	100.0	100.0	100.0	100.0

Most of the people in Jhumka (98 percent) and Indrapur (91 percent) cite reasons other than insufficiency to use alternative sources. Majority of the Khajura people (67 percent) and Jarbuta (57 percent) also think so while majority in the Birendranagar do not.

Among the respondents who mentioned that there are reasons other than insufficiency to use alternative sources were further asked what the reasons were. Poor water quality is found to be the major reason (60 percent) followed by lack of maintenance (35 percent).

Table 3.19: Reasons for using alternative sources

	Percent
Water quality is poor in ADB-sub-project source	60.0
Lack of maintenance	34.7
Cannot pay tariff regularly	2.1
Others	3.2
Total	100.0

All of the Jarbuta people mention that they have to look for alternative sources due to lack of maintenance in the ADB-sub-project source while all of the Jhumka people tell that they have to depend on alternative sources due to poor quality of water supplied by the ADB funded sub-project. Both of these two reasons are significant in the Indrapur sub-project.

Both poor and non-poor households follow the general trend in this regard.

Many of the people who have to use alternative sources of water mention that this situation comes once in a while (42 percent) followed by more than six months in a year (36 percent).

Table 3.21: Frequency of having to use alternative sources in a year

	Percent
Once in a while	41.8
More than six months in a year	35.5
Less than six months in a year	22.7
Total	100.0

Table 3.20: Reasons to use alternative sources by Sub-project

	Sub-project (%)		
	Indrapur	Jhumka	Jarbuta
When water quality is poor in ADB-sub-project source	43.8	100.0	-
When there is lack of maintenance	50.0	-	100.0
When cannot pay tariff regularly	-	-	-
Others	6.3	-	-
Total	100.0	100.0	100.0

Table 3.22: How often you have to use alternative sources in a year? by Sub-project

	Sub-project (%)		
	Indrapur	Jhumka	Jarbuta
When water quality is poor in ADB-sub-project source	43.8	100.0	-
When there is lack of maintenance	50.0	-	100.0
When cannot pay tariff regularly	-	-	-
Others	6.3	-	-
Total	100.0	100.0	100.0

Majority of respondents in Jhumka (76 percent) and Jarbuta (48 percent) mention it happens once in a while. Most of the people in Indrapur have to face the situation more than six months in a year (81 percent).

Poverty level of the households does not seem to influence the response in this regard.

The survey reveals that average length of time to fetch water from alternative sources and come back is more than one hour i.e., 65 minutes. Longest length of time is found to be in Jarbuta (106 minutes) while it takes about half an hour and 5 minutes to fetch water from alternative sources in Indrapur and Jhumka respectively.

Table 3.23: Fetching time length from alternative sources

Sub-project	Time Length (in min)
Total Average	65
Indrapur	28
Jhumka	5
Jarbuta	106

Going by the poverty level, it takes near about 70 minutes for poor households to fetch water from alternative sources while it takes slightly less i.e., 65 minutes for non-poor households.

Almost none of the people in the study sub-projects have to pay to get water from alternative sources. Almost all of the people are satisfied with the quality of water that they get from alternative sources. Poverty level is not a significant variable in this regard.

Table 3.24: Satisfaction with water quality of alternative sources

	Percent
Somewhat satisfied	75.4
Very satisfied	23.1
Somewhat unsatisfied	1.5
Total	100.0

Proportion of the respondents in the survey who told that they have to go out of home to fetch water is 51 percent and that of those who do not have to is 49 percent.

All of the people in Jarbuta have to go out of home to fetch water. Most of the people in Panchakanya (96 percent) and majority in Birendranagar (57 percent) have to go out of home to fetch water. This is obvious because the main source

Table 3.25: Going out of home to fetch water by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	35.4	8.8	95.9	8.2	-	100.0	56.6
No	64.6	91.2	4.1	91.8	100.0	-	43.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

of water in these sub-projects is public tap stands. Most of the people in other sub-projects do not have to go out of home to fetch water. However, significant proportion of the people in Indrapur have to go out of home to fetch water as they depend on public tube wells (35 percent).

Going by poverty level, significantly different views are experienced. Majority of the people from poor households (67 percent) mention that they have to go out of home to fetch water while majority of the people from non-poor households (55 percent) mention they do not have to.

Table 3.26: Going out of home to fetch water by poverty

	Poor (%)	Non-poor (%)
Yes	67.3	44.8
No	32.7	55.2
Total	100.0	100.0

Respondents who mentioned that they have to go out of home to fetch water were further asked what type of terrain they have to walk to fetch water. Three fourth of the respondents mention it is levelled path (75 percent). Response to this question is not varied across the different sub-projects and the different poverty levels.

Most of the respondents who have to fetch water from out of home mention that they have to do it more than three times a day (44 percent). Birendranagar is the place where majority people fetches water three times a day (45 percent) which is lower than the general trend. People in other sub-projects follow the general trend. It holds true for all poverty levels.

Table 3.27: times in a day that water need to be fetched

	Percent
Once	1.6
Twice	31.2
Thrice	23.3
More than three times	43.9
Total	100.0

In the sample households, it is the elderly married women who usually go for water fetching. However, other members of family are also significantly involved in fetching the water.

Table 3.28: Family member fetching water

	Percent
Elderly married women	50.0
All members of family	37.8
Young girls/unmarried women	4.8
Men	3.2
Children	2.7
Young boys	1.6
Total	100.0

In Indrapur, Ratnanagar and Panchakanya, all members of family fetch water while mainly elderly married women are involved in this chore in Jhumka, Jarbuta and Birendranagar.

Table 3.29: Who usually goes to fetch water? by Sub-project

	Sub-project (%)					
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Jarbuta	Birendranagar
Men	-	-	-	-	1.7	8.9
Young boys	-	-	-	-	3.3	1.8
Elderly married women	29.5	-	31.9	75.0	53.3	69.6
Young girls / unmarried women	5.9	-	2.1	25.0	8.3	1.8
Children	5.9	-	4.3	-	1.7	1.8
All members of family	58.8	100.0	61.7	-	31.7	16.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Respondents were further asked why that particular person(s) go to fetch water. Simple majority (48 percent) mention that it is the household duty of that person closely followed by unavailability of other members (43 percent).

Table 3.30: Reasons for the particular person fetching water

	Percent
Household duty of that person	47.7
Unavailability of other members	43.2
Wants to go	4.5
Water source is far	2.7
Others	1.8
Total	100.0

In Indrapur and Panchakanya, there is no gender and generation bias in the job of water fetching. Whoever is free and available at home usually goes out fetching. But in Birendranagar and Jhumka where elderly married women fetch water, people believe that it is their household duty. This shows some degree of gender bias in the people living in these places.

There is no significant difference across the different poverty levels.

The survey shows that most of the respondents believe that water delivery timing is convenient for them (86 percent). Going by the different sub-projects, all of them follow the general trend. However, significant proportion of the consumers in Jhumka thinks that water delivery timing is not convenient for them (34 percent). Households from all poverty levels follow the general trend.

Respondents who mentioned that water delivery timing is not convenient for them were further asked to disclose the reasons. Most of them complain that they feel inconvenience because water does not come during the mid-day time and/or through out the day (64 percent).

Table 3.31: Reasons for inconvenience

	Percent
Water does not during the mid-day time/throughout the day	64.3
Water comes during the night	21.4
Water comes very early in the morning	14.3
Total	100.0

Most of the respondents were found to be satisfied with the quality of water supplied from the ADB funded sub-project.

Table 3.32: Satisfaction from the quality of water supplied from ADB-sub-project

	Percent
Very satisfied	56.7
Somewhat satisfied	16.7
Somewhat unsatisfied	15.8
Very unsatisfied	9.6
DK/CS	1.3
Total	100.0

When analysed across the different sub-projects, it is found that Jhumka is the only sub-project that does not follow the general trend. Most of the consumers in Jhumka are not satisfied with the quality of water they have been supplied (86 percent).

Table 3.33: Satisfaction with the quality of water supplied from ADB-sub-project by sub-projects

	Sub-project (%)			
	Indrapur	Panchakanya	Jhumka	Jarbuta
Very satisfied	35.6	84.0	2.1	89.8
Somewhat satisfied	35.6	10.0	12.5	5.1
Somewhat unsatisfied	24.4	4.0	41.7	3.4
Very unsatisfied	4.4	-	43.8	-
DK/CS	-	2.0	-	1.7
Total	100.0	100.0	100.0	100.0

Poverty level of the households does not seem to significantly influence this view. However, it is worth-mentioning that proportion of the unsatisfied households among the non-poor group is higher (28 percent against 18 percent).

The respondents who were not satisfied with the quality of water were further asked to mention the problems. Most of them say that water supplied to them is not potable due to its hardness (33 percent) and because it is dirty (25 percent).

Table 3.34: Reasons for dissatisfied with the quality of water

	Percent
Hardness	32.9
Dirty	24.5
Bad colour	18.9
Bad smell	12.6
Bad taste	5.6
Cause illness	4.9
Floating particles	0.7
Total	100.0

Most of the people in the study ADB-sub-projects think that there has been no discrimination while constructing public/private tap stands (66 percent). About 11 percent think there has been discrimination. Remaining 23.5 percent say that they do not know or cannot say anything definitively.

Table 3.35: Discrimination while constructing public/private tap stands

	Percent
Yes	10.9
No	65.5
DK/CS	23.5
Total	100.0

Almost all of the sub-projects follow the general trend except Ratnanagar where 89 percent people profess ignorance on this matter. People in Jarbuta are also divided.

Most of the respondents who believe that there has been discrimination while constructing public/private tap stands think that tap stands were installed closer to certain groups or households (83 percent). All of the sub-projects and poverty levels follow the general trend.

Table 3.37: Evidence of discrimination while constructing public/private tap stands

	Percent
Tap stands are installed closer to certain groups/households	83.3
Was not informed about the project	11.1
Others	5.6
Total	100.0

Most of the respondents say that there are no particular individuals/groups which are prohibited from utilizing the public water source (87 percent). Views across the different sub-projects and the poverty levels are not different from the general trend.

Table 3.38: Individuals/groups prohibited from utilising the public water source

	Percent
Yes	2.9
No	87.0
DK/CS	10.1
Total	100.0

However, the respondents who believe that there are individuals/groups prohibited from using the public water

Table 3.36: Discrimination while constructing public/private tap stands by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	-	8.3	-	-	3.1	46.7	6.5
No	97.9	4.2	94.0	88.5	96.9	46.7	60.2
DK/CS	2.1	87.5	6.0	11.5	-	6.7	33.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

source mention that it is mainly the dalits (70 percent). But respondents with this view are very few in numbers. Public views are not different from the general trend across the sub-projects and poverty levels.

Most of the people do not think that any particular individuals/groups are monopolising the public water source (78 percent). All of the sub-projects follow the general trend except Ratnanagar where majority profess ignorance on this matter (85 percent). No significant difference is masked across the poverty line.

Table 3.38: Individuals/groups monopolising the public water source

	Percent
Yes	4.6
No	78.3
DK/CS	17.1
Total	100.0

Most of the respondents who believe that there are particular individuals/ groups monopolising the public water source mention that it high caste people (56 percent) and economically affluent people (38 percent). But the respondents with such views are marginal in number. People from all poverty levels follow the general trend.

Majorities of people say that women are allowed to use the public water taps during the menstrual period (77 percent). Another 16 percent do not know or could not say anything clearly on this matter while a very few (7 percent) say that women are not allowed. All of the sub-projects follow the general trend except Ratnanagar and Jhumka. In Ratnanagar, majority profess ignorance on this matter (88 percent) while the Jhumka people are divided into the categories 'yes' and 'do not know/cannot say' (55 percent and 45 percent respectively).

Poverty level has no significant influence on general public view on this matter. However, higher proportion of the poor group (88 percent) allows women to use the public water taps during the menstrual period compared to the non-poor group (71 percent).

3.2 Health and Sanitation

Most of the households covered in the survey have well-managed private latrine (64 percent). But number of households without a well-managed private latrine is also very significant (36 percent).

Table 3.39: Well-managed private latrine

	Percent
Yes	64.3
No	35.7
Total	100.0

Going by the different sub-projects, most of the households in Ratnanagar (85 percent) and Jhumka (92 percent) have well-managed private latrines while three fourth of the Jarbuta households do not have (74 percent). Even though majority of the households in Indrapur (63 percent), Panchakanya (64 percent) and Khajura (54 percent), have well-managed private latrines, number of those who do not have is very significant.

Table 3.40: Well-managed private latrine by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	63.3	84.5	64.0	92.2	54.3	25.8	67.7
No	36.7	15.5	36.0	7.8	45.7	74.2	32.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Majority of the poor households (56 percent) do not have well-managed private latrine while most of the non-poor households (74 percent) have access to well-managed private latrine.

Table 3.41: Do you have a well-managed private latrine? by Poverty

	Poor (%)	Non-poor (%)
Yes	43.6	73.6
No	56.4	26.4
Total	100.0	100.0

Most of the households which have well-managed private latrine had constructed them with their own money (94 percent). Same holds true across the different sub-projects and the different poverty levels.

Table 3.42: Means through which private latrines were constructed

	Percent
I constructed it with my own money	94.2
It is a part of the ADB-sub-project	3.9
It is a part of another sub-project	1.9
Total	100.0

Most of the households which do not have well-managed private latrines practice open defecation in the places like bushes, jungles and river banks (40 percent). Another 32 percent defecate in unhygienic private latrines. Significant proportion of 26 percent use neighbour's latrines.

Table 3.43: Where people go for defecation

	Percent
Open defecation	39.6
Unhygienic private latrine	32.4
Neighbour's latrine	25.9
Community latrine	2.2
Total	100.0

Among the households who do not have well-managed private latrines, all of the people in Indrapur practice open defecation while most of the people in Ratnanagar (71 percent) do so in unhygienic private latrines. In Panchakanya and Birendranagar, all of the three practices, open defecation, using neighbour's latrine and unhygienic latrine are common. Majority in Khajura (56 percent) practice open defecation while majority in Jarbuta (46 percent) do so in neighbour's latrines.

Views are not significantly different from the general trend across the poverty line.

Households that do not have well-managed private latrines were further asked about the reasons. Poor economic condition of the people is identified to be the main reason for not having a well-managed private latrine. This holds true in all sub-projects and all poverty levels.

Table 3.45: Reasons for not having a well-managed private latrine

	Percent
Lack of money	96.4
No fund under ADB sub-project	2.2
No need	1.4
Total	100.0

Table 3.44: Where people go for defecation by sub-projects

	Sub-project (%)					
	Indrapur	Ratnanagar	Panchakanya	Khajura	Jarbuta	Birendranagar
Community latrine	-	-	-	16.7	-	-
Unhygienic private latrine	-	71.4	27.8	27.8	41.3	35.5
Open defecation	100.0	28.6	38.9	55.6	13.0	35.5
Neighbour's latrine	-	-	33.3	-	45.7	29.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Most of the people (85 percent) say that there are no ADB-sub-project community latrines. Some of them express their ignorance on this matter (14 percent). The situation is same across the different sub-projects.

Table 3.46: Prevalence ADB-sub-project community latrines

	Percent
Yes	0.7
No	85.2
DK/CS	14.1
Total	100.0

Most of the people in the survey think that people continue to practice open defecation because they cannot afford to build latrines (72 percent). Proportion of those who feel convenient to do so is also significant (16 percent).

Table 3.47: Reasons people continue to practice open defecation

	Percent
Cannot afford to build latrines	71.9
Convenient	15.9
Cannot change habit	5.4
Because latrines are dirty	4.3
Others	1.4
Embarrassment	1.1
Total	100.0

Views on this topic follows the general trend except Ratnanagar where most of the people (69 percent) think that they continue to practice open defecation because they feel it is convenient.

Not significantly different view from the general trend is observed across the poverty line.

Most of the households in the study area dispose waste by burning it outside home (29 percent). The survey also shows that significant proportion of the people dispose waste by collecting in pit and using the waste as manure (19 percent).

Table 3.49: Ways of disposing household waste

	Percent
Burn outside	28.6
Collect in pit and use as manure	18.7
Put in pit and leave	15.9
Put in pit and burn	15.8
Put in pit and cover	9.0
Store for collection to communal dump	5.8
Throw outside home-yard	3.1
Throw in streets	1.8
Others	1.3
Total	100.0

Disposing culture across the different sub-projects is significantly different. Majority in Indrapur (29 percent), Ratnanagar (69 percent), Panchakanya (49 percent), Jarbuta (29 percent) and Birendranagar (24) do it by burning outside home while majority in Jhumka

Table 3.48: Reasons people continue to practice open defecation by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Convenient	29.3	68.8	9.4	1.7		4.3	
Cannot afford to build latrines	43.1	15.6	79.2	83.1	100.0	81.2	97.1
Because latrines are dirty	5.2	12.5				10.1	1.0
Embarrassment	3.4		3.8			1.4	
Cannot change habit	17.2	3.1	7.5	6.8		2.9	2.0
Others	1.7			8.5			
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.50: Ways of disposing the household waste by subproject

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Throw outside the home-yard	0.8	7.8	6.8	0.9	-	2.4	3.7
Burn outside	29.4	68.8	49.3	9.0	8.5	28.5	24.3
Store for collection to communal dump	8.4	9.4	2.7	3.6	4.3	13.8	1.6
Put in pit and leave	16.0	10.9	2.7	25.2	6.4	13.0	20.2
Put in pit and burn	14.3	3.1	19.2	27.9	29.8	16.3	10.3
Put in pit and cover	21.0	-	1.4	8.1		3.3	12.8
Collect in a pit and use as manure	10.1	-	15.1	18.9	51.1	19.5	22.2
Throw in the streets	-	-	1.4	5.4	-	0.8	2.5
Others	-	-	-	0.9	-	2.4	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(28 percent) and Khajura (30 percent) dispose the waste by putting them in pit and burn.

The survey also found out that most of the households (79 percent) dispose the sewerage in bari (kitchen garden). All of the sub-projects under study and the poverty levels follow the general trend.

Table 3.51: Ways of disposing sewerage

	Percent
Goes to bari	79.0
Others	9.1
Goes to street	7.6
Soak in pit	4.3
Total	100.0

The survey also revealed that most of the people (96 percent) always wash their hands after defecation (97 percent). No variation is observed across the sub-project line and the poverty line. Soap and water are the most common commodities they use for washing their hands after defecation (76 percent). It is worth-mentioning that proportion of those who use ash and water is also significant (16 percent). All of the sub-projects and the poverty levels follow the general trend on this matter.

Table 3.52: Items used in washing hands after defecation

	Percent
Soap and water	76.2
Ash and water	16.3
Mud and water	5.4
Only water	2.1
Total	100.0

Most of the respondents also wash their hands before eating (99 percent). Many of them (56 percent) only use water to wash hands before eating. But 39 percent also use soap and water. All of the sub-projects and the poverty levels follow the general trend.

Table 3.53: Items used in washing hands before eating

	Percent
Only water	55.8
Soap and water	38.7
Ash and water	5.3
Mud and water	0.2
Total	100.0

Most of the people (71 percent) in the study sub-projects believe that overall hygiene of their families has improved after the implementation of project. Another 20 percent do not think so.

Table 3.54: Improvement in overall hygiene of family

	Percent
Yes	71.2
No	20.2
DK/CS	8.6
Total	100.0

By disaggregating by the different sub-project, most of the people in Panchakanya (80 percent), Khajura (97 percent), Jarbuta (92 percent) and Indrapur (56 percent) believe that overall hygiene of their families has improved after the implementation of sub-projects while many people in Jhumka (50 percent) do not think so. Only one third of the Jhumka residents (33 percent) believe that there has been improvement in health.

Households from all poverty levels follow the general trend.

Most of the people (83 percent) who believe that overall hygiene of their families has improved say that they face less frequency of disease. Public view is not significantly different across the different sub-projects and the poverty levels. It seems that the ADB projects have been successful in improving health condition of the people by reducing waterborne diseases.

Table 3.56: Evidence that overall hygiene of your family has improved

	Percent
Less frequency of diseases	83.4
Members are now more healthy	12.6
Time saved from travelling to health post	4.0
Total	100.0

Majority in the study sub-projects (58 percent) do not take any steps to treat water before they drink. About 41 percent take some steps to treat water.

Table 3.57: Steps to treat water prior to drinking water

	Percent
Yes	41.3
No	57.7
DK/CS	1.0
Total	100.0

View is varied across the sub-project line. Most of the people in Jhumka (57 percent), Jarbuta (57 percent) and Birendranagar (63 percent) take steps to treat water prior to drinking while most of the people in Indrapur (80 percent), Ratnanagar (96 percent) and Khajura (90 percent) do not take any steps to treat water for drinking. People are divided in Panchakanya between 'yes' and 'no'.

Table 3.55: Improvement of overall hygiene of family by sub-projects

	Sub-project (%)				
	Indrapur	Panchakanya	Jhumka	Khajura	Jarbuta
Yes	56.3	80.0	33.3	97.2	91.9
No	22.9	18.0	50.0	2.8	6.5
DK/CS	20.8	2.0	16.7	-	1.6
Total	100.0	100.0	100.0	100.0	100.0

Table 3.58: Steps to treat water prior to drinking by subproject

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	20.4	4.2	48.0	57.1	7.3	57.4	62.9
No	79.6	95.8	50.0	38.8	90.2	42.6	37.1
DK/CS	-	-	2.0	4.1	2.4	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Response to this question does not significantly deviates from the general trend across the poverty line.

Filtering water and covering tap faucet with cotton cloths are the most common steps in the study sub-projects to treat water (29 percent and 24 percent respectively) followed by boiling water (22 percent).

Table 3.59: Methods of treating water

	Percent
Filtering water	28.6
Covering tap faucet with cotton cloths	24.0
Boiling water	21.9
Storing water for sometime in copper pot	14.3
Boiling and filtering water	6.6
Others	3.1
Adding medicine	1.5
Total	100.0

Public view is significantly different across the different sub-projects. In Jhumka, most of the people filter water (39 percent) while most of the people in Panchakanya boil water (70 percent).

Filtering water and covering tap faucet with cotton cloths are equally common in Indrapur. The Jarbuta people practice covering tap faucet with cotton cloths at most (41 percent) while most of the Birendranagar people like to filter water (41 percent).

Most of the people (92 percent) in the study sub-projects know that access to safe drinking water is a right. Public response on this topic is not significantly varied across the different sub-projects and the different poverty levels.

Table 3.61: Do you know that access to safe drinking water is a right?

	Percent
Yes	92.0
No	4.4
DK/CS	3.6
Total	100.0

It is also determined that media has the most significant role making people aware of this (57 percent). Awareness campaign conducted by local CBOs/NGOs also has an important role (30 percent).

Table 3.60: Methods of treating water by sub-projects

	Sub-project (%)				
	Indrapur	Panchakanya	Jhumka	Jarbuta	Birendranagar
Boiling water	18.2	70.0	27.3	2.0	11.8
Filtering water	27.3	6.7	39.4	14.3	41.2
Boiling and filtering water	9.1	-	33.3	2.0	-
Storing water for sometime in copper pot	18.2	6.7	-	34.7	10.3
Covering tap faucet with cotton cloths	27.3	13.3	-	40.8	29.4
Adding medicine	-	-	-	4.1	1.5
Others	-	3.3	-	2.0	5.9
Total	100.0	100.0	100.0	100.0	100.0

Table 3.62: Reasons for knowing that access to safe drinking water is a right

	Percent
From media	57.2
From awareness campaign conducted by local CBOs/NGOs	29.6
From government authority	7.1
Others	6.1
Total	100.0

Indrapur, Ratnanagar, Jhumka, Jarbuta and Birendranagar follow the general trend. But most of the people in Panchakanya (37 percent) and Khajura (85 percent) are aware of it from awareness campaign conducted by local CBOs/NGOs.

Majority in the study sub-projects (60 percent) think that the information about project activities was disseminated beforehand and during the project. It is worth-mentioning that significant proportion of them (27 percent) professes ignorance on this matter.

Table 3.64: Dissemination of project information

	Percent
Yes	59.6
No	13.1
DK/CS	27.3
Total	100.0

All of the sub-projects except Ratnanagar follow the general trend. Most of the people in Ratnanagar (78 percent) where the sub-project is under construction profess ignorance on this matter.

Government authority (55 percent) is the main agency to disseminate the information about project activities beforehand and during the project. There is no significant difference across the different sub-project and poverty line.

Table 3.66: Agency to disseminate information

	Percent
Government authority	55.3
CBOs	16.4
Funding agency	14.8
Others	9.4
NGOs	4.1
Total	100.0

Table 3.63: Reasons for knowing that access to safe water is a right by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
From media	56.8	96.1	20.0	65.7	12.8	53.3	65.9
From awareness campaign conducted by local CBOs/NGOs	15.9	2.0	35.6	27.1	84.6	26.7	29.5
From government authority	27.3	2.0	20.0	4.3	2.6	6.7	0.8
Others	-	-	24.4	2.8	-	13.3	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.65: Dissemination of project information by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	98.0	5.6	70.2	61.2	100.0	65.6	59.4
No	-	16.7	10.6	20.4	-	4.9	20.8
DK/CS	2.0	77.8	19.1	18.4	-	29.5	19.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Most of the people in the study sub-projects (61 percent) believe that all members of community have equal access to project information.

Table 3.67: Equal access to information

	Percent
Yes	60.6
No	24.9
DK/CS	14.6
Total	100.0

All of the sub-projects except Ratnanagar follow the general trend. Most of the people in Ratnanagar (78 percent) do not think so. Response across the poverty line follows the general trend on this matter.

The respondents who think that all members of community do not have equal access to project information were further asked to identify who have less access to project information. Most of them mention dalits (38 percent) followed by women (28 percent) and old generation (24 percent).

Table 3.68: People in community having less access to project informations

	Percent
Dalits	37.5
Women	28.1
Old generation	24.0
Affluent people	7.3
Young generation	3.1
Total	100.0

All of the sub-projects except Jarbuta follow the general trend. Most of the people in Jarbuta (64 percent) think that it is the old generation who have less access to the project information. Response across the poverty line follows the general trend on this matter.

3.3 Economic Aspect

Most of the households (67 percent) in the study sub-projects say that they have to pay to get a private connection. In Indrapur, they have to pay about Rs. 200 in average to get a private connection while in Jhumka, people have to spend Rs. 2,800 in average (it includes the cost of pipes too). In Khajura, people pay around Rs. 1,500 in average while the cost is around Rs. 2,700 in average in Jarbuta. The Birendranagar people spend around Rs. 4,000 in average. So, installation cost for the private connection is quite high except in Indrapur. People from poor household and non-poor household mention that they pay around Rs. 2,000 and Rs. 2,600 respectively to get a connection. These figures indicate that pro-poor policy has not been implemented effectively at the community level.

Table 3.69: Average cost for private connection in sub-projects

Sub-project	Average Cost (Rs)
Indrapur	173
Jhumka	2,800
Khajura	1,467
Jarbuta	2,652
Birendranagar	3,949

Most of the households (66 percent) in the study sub-projects have to pay water tariff if they use the water from the sub-projects. All of the households who are using water from Panchakanya have to pay water tariff while most of the households in Jhumka (92 percent), Khajura (95 percent) and Jarbuta (93 percent) have to pay water tariff. But most of the households in Indrapur (94 percent) and Ratnanagar (94 percent) do not have to pay. In Birendranagar, households are divided into 'have to pay' and 'do not have to pay'.

Table 3.70: Having to pay water tariffs by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	6.3	-	100.0	91.8	95.2	93.4	43.5
No	93.8	94.3	-	8.2	-	6.6	32.6
DK/CS	-	5.7	-	-	4.8	-	23.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Both of the meter-reading basis and flat rate basis are adopted as the mode of payment of water tariff in the study sub-projects.

Table 3.71: Basis for paying water tariff

	Percent
Meter-reading basis	50.0
Flat rate basis	49.5
DK/CS	0.5
Total	100.0

All of the households in Panchakanya pay water tariff on a flat basis (fixed amount of Rs. 20 per month) while all of the households in Khajura pay it on the basis of meter-readings (Rs. 50 per month in average). Most of the households in Jhumka (98 percent) and Birendranagar (91 percent) pay in meter-reading basis. In average, Jhumka households pay Rs. 50 a month whereas Birendranagar households pay Rs. 66 a month. In Jarbuta, most of the households pay water tariff in flat rate basis (Rs. 10 in a month).

Going by poverty level, majority of poor households (63 percent) pay water tariff on flat rate basis while majority of non-poor households (55 percent) pay on meter-reading basis.

The survey also tried to discover the monthly water tariff in the study sub-projects. In average, the Jhumka people pay Rs. 50 in a month while the Khajura people pay Rs. 49 and the Jarbuta people Rs. 10. Going by the poverty level, poor households pay Rs. 19 in month in average whereas non-poor households pay Rs. 41 in month.

Most of the households (70 percent) in the study sub-projects do not have problems in paying water tariff. However, significant proportion of them (29 percent) think that they have problems.

Table 3.73: Problems in paying water tariffs

	Percent
Yes	29.1
No	70.0
DK/CS	1.0
Total	100.0

All of the sub-projects follow the general trend. It may be worth mentioning that proportions of those who think they have problems in paying water tariff are quite

Table 3.72: Basis for paying water tariff by sub-project

	Sub-project (%)				
	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Meter-reading basis	-	97.8	100.0	8.6	90.5
Flat rate basis	100.0	2.2	-	91.4	7.1
DK/CS	-	-	-	-	2.4
Total	100.0	100.0	100.0	100.0	100.0

Table 3.74: Problems in paying water tariffs by sub-project

	Sub-project (%)				
	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	28.9	-	11.1	43.1	46.3
No	71.1	100.0	83.3	56.9	51.2
DK/CS	-		5.6	-	2.4
Total	100.0	100.0	100.0	100.0	100.0

high in Pachakanya (29 percent), Jarbuta (43 percent) and Birendranagar (46 percent).

Looking across the poverty line, 74 of the non-poor households say they have no problems in paying water tariff while only 57 percent of the poor say so. Households who mention that they have problems in paying water tariff do not necessarily mean to say they have financial problem. Some of them feel problems to pay water tariff because they have no willingness to pay for low service and low water quality.

Table 3.75: Problems in paying water tariffs by poverty

	Poor (%)	Non-poor (%)
Yes	41.0	25.2
No	57.4	74.1
DK/CS	1.6	0.7
Total	100.0	100.0

The households which mention that they have problems in paying water tariff were further asked what the problem is. Most of them (58 percent) mention that they are unable to pay water tariff regularly due to their poor economic condition. A significant proportion of them (27 percent) are unwilling to pay due to low level of service.

Table 3.76: The problems in paying water tariffs

	Percent
Unable to pay regularly	58.3
Unwilling to pay for low service level	26.7
Too expensive	15.0
Total	100.0

Most of the households in Panchakanya and Birendranagar follow the general trend while most of the respondents in Jarbuta are deviated from the general trend. In Jarbuta, 52 percent mention that they are unwilling to pay for low level of service.

Very few households (6 percent) in the study sub-projects have borrowed loan to connect pipeline or build a latrine at home. They have borrowed money in the range of Rs. 2,000 to Rs. 50,000. Many of them (43 percent) have borrowed money from bank or finance company followed by local affluent person (38 percent). Most common interest is 2 percent but the survey reveals that it could go up to 30 percent.

Table 3.77: The problems in paying water tariff by sub-project

	Sub-project (%)		
	Panchakanya	Jarbuta	Birendranagar
Too expensive	7.1	16.0	20.0
Unwilling to pay for low service level	-	52.0	15.0
Unable to pay regularly	92.9	32.0	65.0
Total	100.0	100.0	100.0

3.4 Community Participation

The survey also discloses that community participation in the various stages of the ADB-sub-project is low. In the study sub-projects, more than two-third of the people have not been involved in any stage of the sub-project. According to the very few people who have involved to some extent, the participation is low in the stages of design and choice of technology while their participation is significant in the stages of day-to-day operation, maintenance, and information dissemination. Their participation is found to be moderate in the stages of monitoring and evaluation.

Most of the households (41 percent) think that it is the government authority who interacted with the community during the construction period. A significant proportion of 21 percent professes ignorance on this matter.

Table 3.79: The authorities that interacted with the community

	Percent
Government authority	41.3
DK/CS	20.6
Funding agency	12.8
No one	10.8
CBOs	9.3
NGOs	2.6
Others	2.6
Total	100.0

Table 3.78: Community participation in the various stages of sub-projects (in %)

Stage	No involvement	Little involvement	Great deal of involvement
Design	95.2	4.1	0.7
Choice of technology	94.8	4.1	1.2
Day-to-day operation	84.9	6.2	8.9
Maintenance	75.6	10.8	13.6
Monitoring	93.0	5.5	1.4
Evaluation	94.3	4.3	1.4
Information dissemination	85.7	9.1	5.3

Public view on this matter is significantly different across the different sub-projects. In Indrapur, most of the people (98 percent) think that it was the government authority who interacted with the community during the project period while most of the people in Panchakanya and Khajura think that it was both government authority and funding agency. People in Jhumka have very different opinion on this matter. Most of them say that no one came to them for the interaction. Most of the people in Jarbuta (39 percent) profess ignorance on this matter. Also significant proportion in Birendranagar (32 percent) professes ignorance.

Most of the people who think that they have been involved in the interaction do not know for sure whether their comments or suggestions were taken into account (49

Table 3.80: The authorities that interacted with the community by sub-project

	Sub-project (%)					
	Indrapur	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
NGOs	-	-	-	-	7.0	4.0
CBOs	-	6.0	15.7	-	8.5	10.0
Government authority	97.5	46.3	17.6	54.5	23.9	40.0
Funding agency	2.5	34.3	-	36.4	21.1	1.0
Others	-	9.0	-	-	-	3.0
DK/CS	-	4.5	15.7	-	39.4	32.0
No one	-	-	51.0	9.1	-	10.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

percent). A significant proportion does not think that their comments and suggestions were taken seriously.

Table 3.81: Did your comments/suggestions result in changes of project design?

	Percent
Yes	11.7
No	39.4
DK/CS	48.9
Total	100.0

Going by different sub-projects, Indrapur, Jhumka and Jarbuta follow the general trend while most of the people in Ratnanagar, Panchakanya and Birendranagar think their comments and suggestions did not result in any changes. Only people in Khajura think that their comments and suggestions produced some changes in the design.

4. Conclusions and Recommendations

4.1 Conclusions

The ADB funded sub-projects have reduced the fetching time length from 32 minutes to 11 minutes in dry seasons and from 28 minutes to 8 minutes in wet seasons. In overall terms the projects have been able to reduce drudgery. Even though people in most of the sub-projects are satisfied with water quality, water quality is not accepted in all sub-projects. In Jhumka, people do not consume the ADB-sub-project water for drinking, preparing food and bathing despite the fact that they have private connections. The reason is poor quality of water. They have installed private tube wells to get water for these household activities. This raises questions on the pro-poor policy. Poverty level also plays significant role in this regard. Many of the poor have been found to be satisfied with water quality while many of non-poor have not.

Systems in some sub-projects, for instance Indrapur, are not very reliable. Indrapur sub-project get frequently out of order or water source of the sub-project frequently dries up. Despite of introduction of the ADB-sub-project, people still have to depend on alternative sources like tube wells, wells and surface water. People in Indrapur have to depend on alternative sources more than six months in a year. In general, people have to fetch water more than three times a day. Basically, elderly married women are responsible for this job. However, all members of family also participate. People in the sub-projects do not have experience of any kind of discrimination while constructing public and private tap stands. People believe that neither any particular individuals or groups are prohibited from utilizing the public water sources nor some one has been monopolizing the public water sources. They also say that women are allowed to use the public water taps during the menstrual period.

Table 3.82: Comments/suggestions resulting in changes of project design by sub-project

	Sub-project (%)						
	Indrapur	Ratnanagar	Panchakanya	Jhumka	Khajura	Jarbuta	Birendranagar
Yes	7.7	-	3.4	6.1	80.0	28.1	6.6
No	20.5	58.3	55.2	20.4	-	33.3	56.0
DK/CS	71.8	41.7	41.4	73.5	20.0	38.6	37.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Significant numbers of households in the ADB-sub-projects do not have access to well-managed private latrines. Most of those who have access, belong to non-poor group. Households with well-managed private latrines constructed them with their own money. Open defecation is still common. Lack of money is the most pronounced reason for not having well-managed private latrines. Neither community latrines nor sewerage system and garbage collection system are introduced in the ADB-sub-project regions. People simply burn the garbage outside home and/or dump in pit and use as manure. Their sewerage drains into the bari.

Most of the people say they wash their hands after defecation with soap and water. They say they use only water to wash their hands before eating. Most of them also believe that overall hygiene of their families has improved after the project implementation as they face less frequency of diseases now-a-days. Majority of them do not take any step to treat water prior to drinking. However, significant numbers of people in Jhumka, Jarbuta and Birendranagar take steps. People in these sub-projects treat water by filtering, by covering tap faucet with cotton cloths or by boiling.

People in the ADB-sub-project regions are well aware that access to safe drinking water is a right. However, information about project activities beforehand and during the project was not sufficiently disseminated. Irrespective of this fact, government authority has played a leading role in this regard. Despite the insufficient information dissemination, most of the aware people believe that all members of community have equal access to project information. However, some people have identified dalits and women as those who have less access to project information.

Most of the households in the ADB-sub-project regions do not think that they have problems in paying monthly water tariff. However, installation cost for the private connection seems to be quite high. Very few people belonging to poor group have access to private connection. This reveals that pro-poor policy at the community level has yet to be implemented in a real sense.

Community participation in the various stages of the ADB sub-projects is not sufficiently promoted. Very few people who have participated in the various stages of the sub-projects in lesser or greater extent also involve only in day-to-day operation, maintenance and information dissemination. Their participation is found to be low in the stages of design, choice of technology, monitoring and evaluation.

4.2 Recommendations

- Water quality of some of the ADB-sub-projects should be improved. For instance, proper water treatment process should be employed in the Jhumka sub-project to make the water potable.
- The ADB should strongly incorporate sanitation component in its water supply sub-projects. Well-managed latrines, sewerage system and garbage management system should be integrated with the water supply sub-projects as the basic components of overall project.
- Installation cost for the private connection should be subsidized.
- The ADB should pay more attention to disseminate its project information and activities to end-users beforehand and during the project implementation.

- The ADB should effectively work with local NGOs and CBOs to organize awareness campaigns at local level. It should promote local institutions for organizing information dissemination programmes and interaction programmes.
- The ADB should regularly monitor the sub-projects to make sure under-privileged groups like dalits and women have equal access to projection information and activities.
- The ADB should increase community participation in the various stages of the sub-projects. Community participation should be made more effective from the phase of project design to the phase of day-to-day operation and maintenance.

Wateraid Nepal

Water and sanitation are essential for poverty reduction. WaterAid's vision is of a world where everyone has access to safe water and affordable sanitation. WaterAid believes that the key to achieving universal coverage in water supply and sanitation is improved implementation practices and increased resource allocation within the sector policy framework which is more effective, efficient, transparent and accountable, and is fully owned by the government, NGOs and civil society.

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