Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

South Asia Region

The Water Supply and Sanitation Situation of the Urban Poor in the Kathmandu Valley

Results of a Research Study

Volume 2: Community Profiles

LUMANTI
SUPPORT GROUP FOR SHELTER

WaterAid

NEWAH

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Lumanti Support Group for Shelter
Nepal Water for Health (NEWAH)
WaterAid
Water and Sanitation Program – South Asia

July 2000

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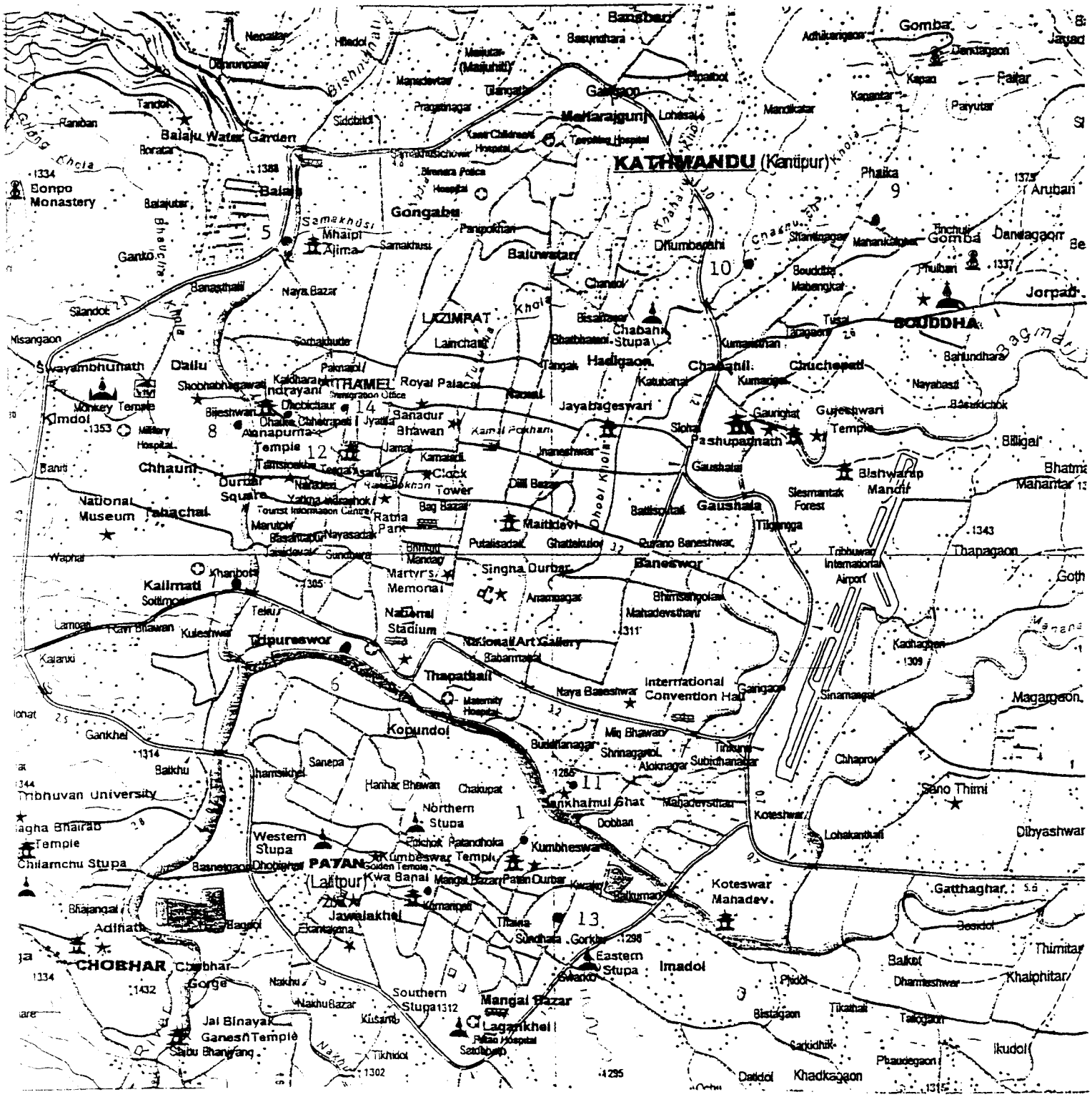
Map of Kathmandu Showing Locations of Communities Profiled



Legend	
1. Alko	8. Dhumakhel
2. *Kumi Tole**	9. Kapan
3. Nayagan	10. Pathivara
4. *Pobo Thimi**	11. Sankhamul
5. Balaju	12. Dhalco
6. Bansighat	13. Subahal
7. Dhaukhel	14. Dhoka Bahal, Tyodha

*Communities 2 and 4 are in the Municipality of Thimi, approximately 5 kms off the areas shown in this map.

Section A:

Slum Communities

Alko
Kami Tole
Nayagan
Pobo Thimi

PROFILE #1

Name of Community	**Alko**
Type	Slum community
Location	It is located at the edge of the Patan city.
Ward	Ward 22, LSMC
Survey dates	March 06. 2000 or 2056.11.23

1. Site Description

- Overview of infrastructure: This community is rich in water resources with seven communal resources in total. All the houses have toilets. There is a sewerage line. The 'Dhaka dha' (Dhaka river) flows behind the community. Dhaka dha was originally meant for irrigation and is now used for drainage. Some lanes in the community are paved and some are not. The community has access to an open space, previously used as a garbage dump, which they would like to turn into a park. There is a small, one room community building. Electricity is available.
- Housing type and density: The houses are permanent. Most of the houses are two stories and some are three or four stories.

2. Community Profile

Number of households : 105
Number of dwellings : 78
Average household size : 3.6
Total population : 382
Any seasonal variation : No.

- Social / ethnic composition : This is a low caste (dalit) community, dominated by Deola (sweeper) caste. There are also a few Khadgi (butcher) families.
- Settlement history :

Nepali year	World year	Event
1600s	1600s	There is a long running tradition of low caste people settling on the fringe of Patan. No one is sure exactly how old this community is but it is estimated at 300 - 400 years old.
2026	1970	An influential Khadgi family started a bone processing factory in the community which omits a dreadful odour. The community has since tried to remove the factory with no success.
2054	1997	Community member elected to ward office.
2055	1998	Lumanti starts work in this community.

- Typical occupations / income level: Typically the Deolas are sweepers and cleaners. Most of them are employed with LSMC as sweepers and some have similar jobs with other agencies. Average income is Rs. 3,000-5,000 per month.

- CBO's and their activities: Lumanti has supported five women's saving and credit groups, and a children's tutoring group.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Relationship with the ward office is good. A community member was elected to the ward three years ago, which is regarded as significant achievement by and for this community.
- Perceived security of tenure: Households own their land and are therefore not concerned about tenure.
- Access to government services: All households have electricity. One household has a NWSC tap. There is a sewerage line. The waste is deposited in a container and is collected twice a week. Both the container and the collection service are supplied by KMC.

4. External Support

- Previous or current projects: Lumanti has supported five women's saving and credit groups, a children's tutoring group, a library, the construction of private toilets, improvement of the community building, and maintenance of the well. Another organization called G-Fund has provided a scholarship fund. The ward paved the community path.

5. Water supply Facilities

a) Sources and uses

Source	Category	No.	Ownership	Use	Typical No. users per source	Activities done at the water point	Repair responsibility
Stone spout	A1	5	Communal	All uses	16 HH	Washing clothes and pots, bathing	TIC
Dug well	A4	1	Communal	Washing	20/25 HH	Washing clothes and pots, bathing	Last year TIC provided labour and management and Lumanti provided technical and material support.
NWSC metered connection	D2	1	Private	All uses	1 HH	Washing clothes and pots	Owner

- Why do the community use the sources in this way? The stone spouts are a few hundred years old and are still working well. The community uses the stone spouts for drinking and cooking, as the quality of the dug well water is not regarded as suitable for these purposes. The community notes a colour differentiation in the two sources.

- Do they do any routine household treatment of water? Out of thirteen households interviewed only one was found boiling water. The others did not practice any treatment method.

b) Accessibility and convenience

- Control of water points; who has access? All households have access to the stone spouts and the dug well. The TIC makes decisions concerning cleaning and maintenance of these sources. The NWSC connection is controlled and used only by the owner.

c) Reliability

Source	Category	Hours per day	Seasonal variation
Stone spout	A1	24 hrs	No
Dug well	A4	24 hrs	No
NWSC connection	D2	2 hrs	Less water in dry season.

- How do people cope and assist each other in times of shortage? This community has never experienced a water shortage.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
Stone spout	A1	Unknown - too old	None	Rs. 500 for cleaning done once annually.
Dug well	A4	Unknown - too old	None	Rs. 8,220 was spent last year.
NWSC connection	D2	Rs. 11,000	Rs. 45/month for 10,000 litres	About Rs. 300

e) Collection Time and Consumption Summary

Survey Results

Name	Sources used	Total volume collected per day (litres)	Total time spent collecting per day (minutes)	Storage capacity (litres)
1. Shyam Deola	SS	60	20	68
2. Bhimsen Deola	SS	15	10	49
3. Ramila Deola	SS	77	35	48
4. Ram Gopal Deola	SS	40	40	27
5. Bir Bahadur Deola	SS	175	75	42
6. Prem lal Deola	SS	60	35	66
7. Ramcha Deola	SS	15	30	125
8. Umesh Deola	SS	43	20	56
9.Pandav Deola	SS	90	30	170
10. Sanu Bhai Deola	SS	60	20	71
11. Ram Bhai Deola	SS	60	30	31
12. Ganesh Lal Deola	SS	48	30	54

13. Ratna Deola	SS	75	35	53
total		818	410	860
average		63	32	66

Summary by Source

Stone Spout	Measurement	Average – per day	Range
	Volume (in litres)	63	15-175
	Time (in minutes)	32	10-75
	Storage (in litres)	66	27-170

Summary by Gender

Women in 92% of HH (12/13 in survey)		Men in 46% of HH (6/13 in survey)		Children in 69% of HH (9/13 in survey)	
minutes	litres	minutes	litres	minutes	litres
16	34	12	36	16	21

What are the typical storage facilities? Gagri, bucket, jerry can, karuwa, tanfa, bottle, or plastic container.

f) Details of any water supply projects / schemes in the settlement: None

g) Satisfaction with existing services: High level of satisfaction

6. Toilets

a) Coverage

Total dwellings	78
No. of dwellings with private toilet	77
No. of dwellings with no toilet	1
Coverage (%)	98.7%
No. of public toilets	0

b) Types of household latrine

Type	Category	No.	Cost
Permanent superstructure with underground connection to main sewerage line.	D1	72	Total – Rs. 3,500 (materials – Rs. 2,700 and labour – Rs. 800)
Semi-permanent superstructure with no drainage or pit (hanging latrine)	F1	4	Total – Rs. 3,000
Semi-permanent superstructure unlined pit	C1	1	Total – Rs. 3,000

c) Defecation practices

- How widespread is open defecation? The children and the elderly defecate in open spaces.
- Do all family members use household latrines? Yes, but children and elderly also defecate in open spaces.
- Are any private latrines shared? The one family without a toilet shares with their neighbour.

d) Details of current or previous sanitation projects / schemes

- Lumanti has supported the construction of toilets and before that a UBS program of LSMC did the same.

e) Satisfaction with existing toilet facilities

- How private and convenient are the present arrangements? They are convenient because they are located either inside the house or just outside the house.
- Overall satisfaction: Very high.

7. Solid waste management, drainage, general environmental sanitation

- Summarize current arrangements / services:
  There is a sewerage line connecting most toilets (93%) to the city system. There is also a garbage collection system set up by the municipality with collection twice a week. However, the biggest problem in this community is environmental sanitation. The stench omitted from the bone processing factory located in the heart of the community spoils the whole environment. In addition, bones can be found scattered in parts of the community dropped during transportation, dispersed by dogs and attracting large insects. Discharge from this factory is directly connected to the Dhaka Dha and is contributing to the pollution of the river.

- Monthly costs (if any): No
- Seasonality of problems: None.

8. Health

- How does the community perceive their health status? Bad.
- Common sicknesses and seasonal variation: Cold, cough and cholera.
- Perceptions of causes of sickness: They perceive the pollution from the bone factory and of the Dhaka Dha, waste on the road, and unclean open spaces as having a negative impact on their health.

9. User Aspirations and Willingness to pay

a) Problem ranking

1. Solid waste management: this includes the management of the whole environment especially the removal of the bone factory. This also involves improvement of drainage and a clean up of the Dhaka Dha, primarily stopping the direct disposal of factory waste into it.
2. Education: the community is dalit caste and regard themselves as illiterate and unaware.

b) Water and sanitation improvements

Water Supply

- What would their preferred facilities look like? The community is satisfied with their water supply situation.

Sanitation

- What would their preferred facilities look like? Removal of bone factory.
- How much more would people pay for improved facilities? The removal of the factory would not cost money. The community is willing to give full support for any initiation to remove the factory.
- What should be the role of each concerned party in making these improvements? The community thinks that the government should not allow the factory to operate in a residential area

Social Map:

Alko

Legend

- Temple
- Dwelling
- Public park
- Childrens' playground
- Garbage disposal area
- Open sewage line
- Open toilet area
- Community house
- Community meeting hall
- Private, permant toilet
- Tubewell with rower pump
- Public cement water tap
- Public, permanent toilet
- Factory
- Underground sewage line

Overview Map:

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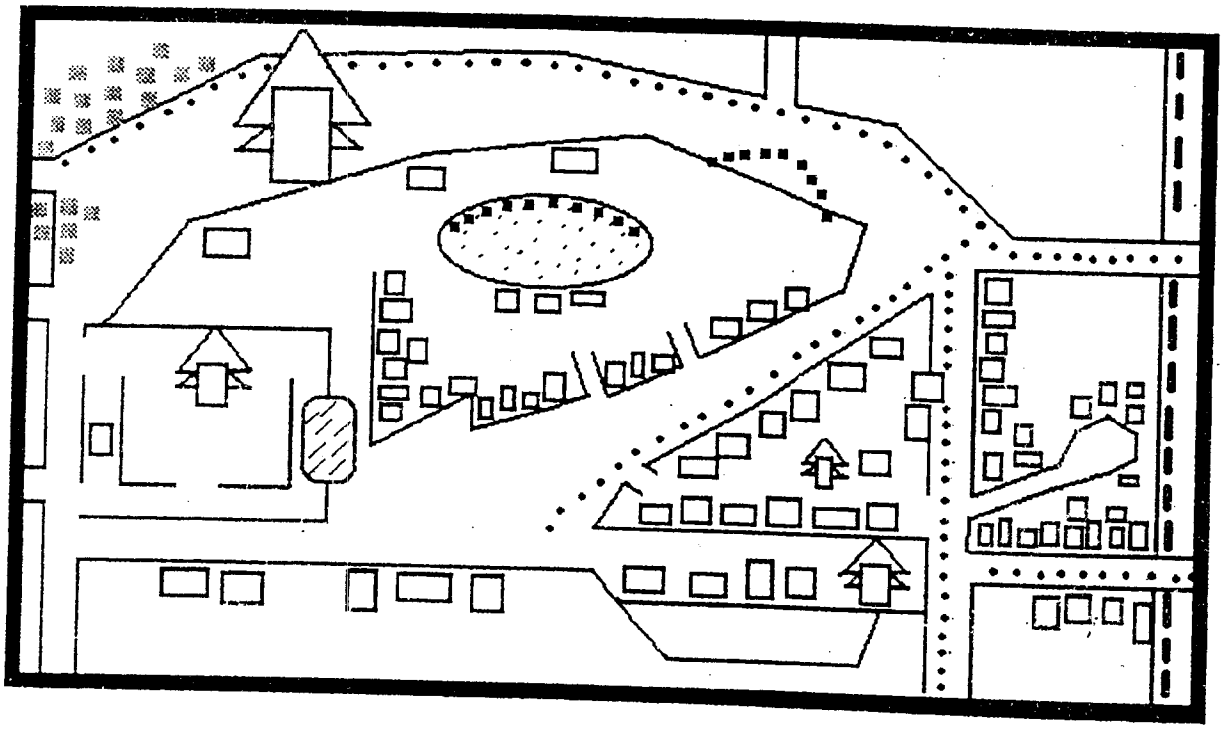


PROFILE #2

Name of Community	Kami Tole, Thimi
Type	Slum community
Location	The community is located in Baktipur, behind the ward office and close to the market.
Ward	4, BMC
Survey dates	057.01.14 or 04.26.00

1. Site Description

- Overview of infrastructure: There is one NWSC community tap and one community hand pump. There is open drainage. There are three public toilets. There is access to electricity.
- Housing type and density: There are only thirteen dwellings in this community. Nine houses are made of corrugated sheets and three of mud bricks. Four houses have thatch roofing.

2. Community Profile

Number of households :18
Number of dwellings :13
Average household size :4.7
Total population :86
Any seasonal variation :No

Social / ethnic composition: This is a low caste (dalit), Newar community (including Biswokarma, Sunar, Mijar, and Sahi castes).

- Settlement history:

Nepali year	World year	Event
-	-	The exact timeframe is unclear - families have been living on this land for generations.
2021	1964	NWSC community tap was connected.
2056	1999	Ward installed community hand pump.

- Typical occupations / income level: Typical occupations are wage labourers or metal workers. Average income is approximately Rs. 1,500 a month.
- CBO's and their activities: Presently, there are no formal community organisations. Lumanti has plans to work in this community.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Relationship with ward is good. No relationship with the municipality.
- Perceived security of tenure: Households have been living here for generations. The land is privately owned, and the occupants pay rent. They cannot do any small construction work without the permission of the owner. The community generally does not feel secure here because of this lack of control.
- Access to government services: There is access to electricity and a NWSC tap.

4. External Support

- Previous or current projects / schemes: There is no history of external support in this community. Just before an election three years ago the ward provided financial support for a tube well, which was installed only last year.

5. Water supply Facilities

a) Sources and uses

Type of source	Cate gory	No.	Ownership	Uses	No. of users	Activities done at source	Repair responsibility
NWSC community standpost	B1	1	Community	All uses	18 HHs and others	Most of the bathing, washing, laundry	Community
Community tube well	B3	1	Community	All uses	18 HHs and others	Some of the bathing, washing, laundry	Ward

- Why does the community use the sources in this way? The only available water sources are the standpost and the hand pump and therefore must provide water for all uses.
- Do they do any routine household treatment of water? Most surveyed households practise cloth filtration, one household boils.

b) Accessibility and convenience

- Control of water points; who has access: Both water sources are controlled by the community and all households have access to them.

c) Reliability

Source	Category	Hours per day	Seasonal variation
NWSC community standpost	B1	8 hrs	No
Communal tube well	B3	24 hrs	No

- How do people cope and assist each other in times of shortage? So far there has been no serious water shortage. Shortages only occur when there is some other technical problem with the tap. In this case they go to the neighbouring dug well. Water collection from this well is troublesome because the people in this community are low caste, and are therefore not allowed to collect from the well when higher caste people are using it. Often by the time it is available to them, there is not enough water left.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
NWSC community standpost	B1	Old – NA	None	Rs. 1,100 was spent when this tap broke down last year. The cost was divided among the households.
Community tube well	B3	Ward contribution	None	Rs. 50 annually (for changing washer).

f) Storage

What are the typical storage facilities? Gagri, washing container, or bucket.

e) **Details of any water supply projects / schemes in the settlement:** Except for the installation of the hand pump, no projects have been initiated.

f) **Satisfaction with existing services:** Satisfied, because water supply is regular and ample enough for this small community.

Summary

Survey Results

	Total volume collected per day (litres)	Total time spent collecting water per day (minutes)	Storage capacity (liters)	Sources used
1.Prem Bahadur Bika	60	40	24	Standpost
2.Buddhi Bahadur Bika	27	30	40	Standpost
3. Rameshor Bia	20	20	11	Standpost
4. Bhaicha shai	75	25	55	Standpost
5. Chandra Bahadur Bika	60	8	55	Standpost
6. Biku Lal Bika	30	6	20	Standpost
Total	272	255	205	
Average	45	42.5	34	

Summary by Source (based on survey of six households)

Source	Category	% of HH that use	Minutes spent per day		Litres collected per day	
			Average	Range	Average	Range
NWSC standpost	B1	100%	45	20-75	43	6-40
Tube well	B3	NA	NA	NA	NA	NA

Summary by Gender

Women did all the water collection in surveyed households.

Toilets

a) Coverage

Total households	13
No. of households with private toilet	1
No. of households with no toilet	12
Coverage (%)	7.7
No. of public toilets	3*

* Two for women and one for men

b) Types of household latrine

Type	Category	No.	Typical cost
Permanent superstructure with lined pit	B1	1 (private)	Total Rs. 5,500 (pit – Rs. 4,000, toilet – Rs. 1,500)
Permanent superstructure with underground drainage to river	D1	2 (public)	Approx. Rs. 1,500
Permanent superstructure with open drainage to river	E1	1 (public)	Approx. Rs. 1,000

c) Defecation practices

- How widespread is open defecation? There is a habit of defecating in the open spaces in this community.
- Do all family members use household latrines? Because of large family size, at times they use public toilets.
- Is the private latrine shared with neighbours? No.

d) Details of current or previous sanitation projects / schemes (subsidies?) None, but the municipality has constructed sewage pipelines close to the community.

e) Satisfaction with existing toilet facilities

- How private and convenient are the present arrangements? Only the one household with the private latrine enjoys a private and convenient situation.

5. Solid waste management, drainage, general environmental sanitation

- Summarize current arrangements / services: Toilet waste is drained directly into the river. Solid waste is thrown openly and attracts flies. Some families raise pigs, which adds to the unsanitary environment. Generally, the community is smelly and filthy.
- Monthly costs: None.
- Seasonality of problems: The problem is always same.

6. Health

- How do the community perceive their health status? Generally okay.
- Common sicknesses and seasonal variation: Headache, stomach ache.

- Perceptions of causes of sickness: Unclean environment, flies.

7. User Aspirations and Willingness to pay

a) Problem ranking

1st major problem -- Lack of toilet facility
2nd major problem-- Lack of education / awareness
3rd major problem-- Lack of security of housing
4th major problem – Lack of drainage facility

- Why these priorities? Men in the community have to pay Rs. 1 when they use the public toilet. Although it is free for women, it is especially inconvenient for them as well as the sick and elderly. The lack of solid waste management has a significant negative impact, but the community prioritised the need for education above it. They see education as a key to employment opportunities and subsequently income. This shows the grave economic situation in this community.

- Other issues arising from discussion: The public toilet does not have roof. Being low caste they face problems when they have to collect water from the well in a neighboring community.

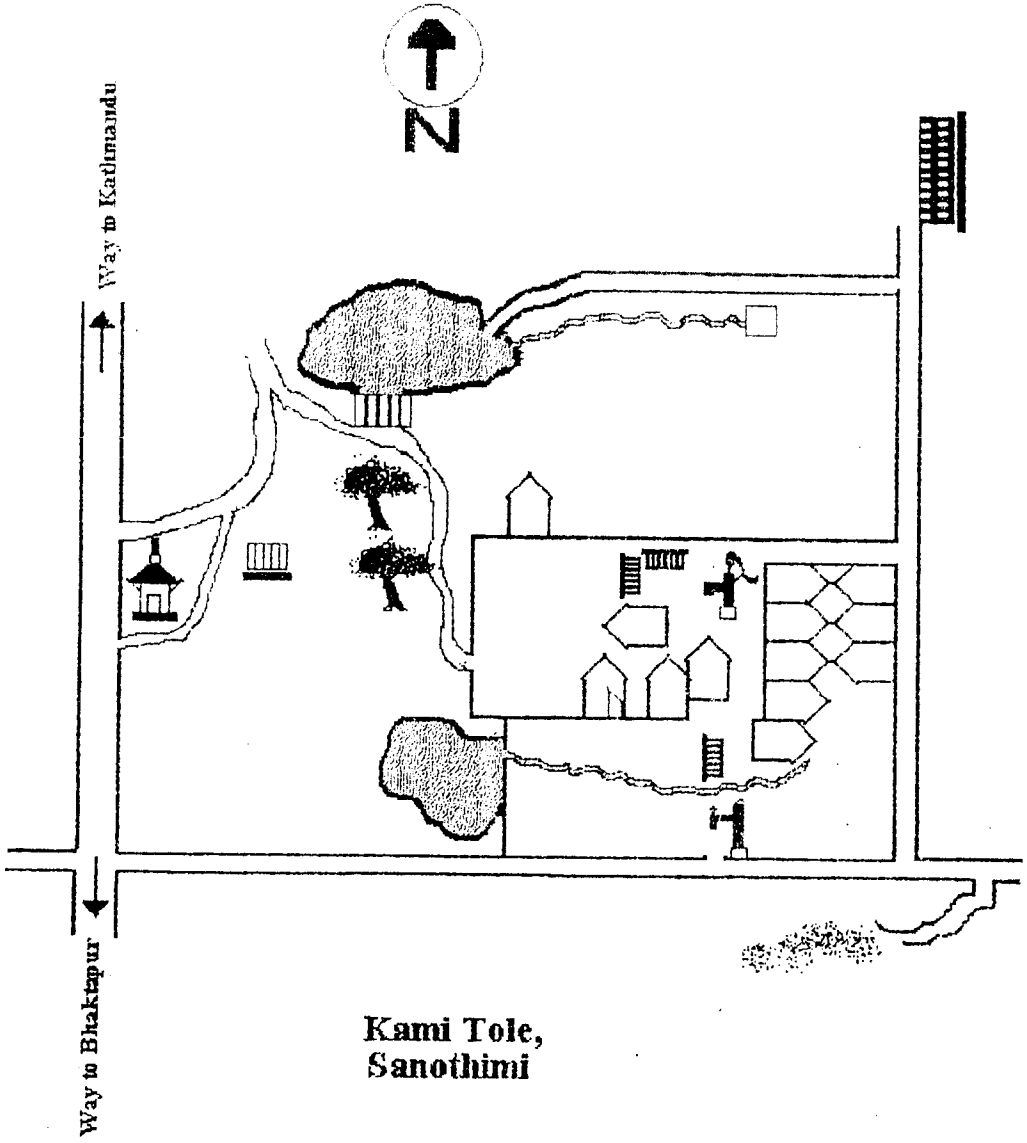
b) Water and sanitation improvements

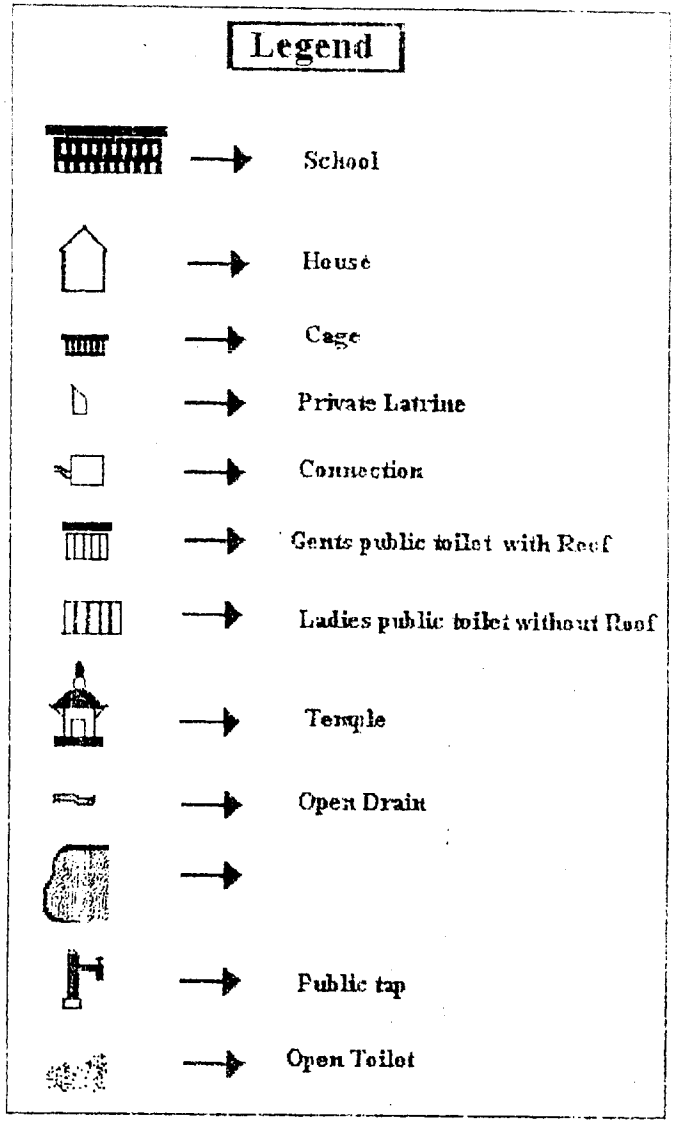
Water Supply

- What would their preferred facilities look like? A small community, therefore, two sources of water are enough.
- How much more would people pay for improved facilities? NA
- What should be the role of each concerned party in making these improvements? NA

Sanitation

- What would their preferred facilities look like? Improved drainage for public toilets and more private toilets in households.
- How much more would people pay for improved facilities? They can afford to only contribute labour. However, it is impossible for the labourers to miss even one day of work.
- What should be the role of each concerned party in making these improvements? They need significant external financial and technical help.


N
Way to Kathmandu
Way to Bhaktapur
Kami Tole,
Sanothimi


Legend
School
House
Cage
Private Latrine
Connection
Gents public toilet with Roof
Ladies public toilet without Roof
Temple
Open Drain
Public tap
Open Toilet

PROFILE #3

Name of Community	Nayagan
Type	Slum community
Location	Ten minutes walking distance from LSMC. Behind LSMC. Flat land.
Ward	Ward 20, LSMC
Survey dates	March 13, 2000 or 2056.11.30

1. Site Description

- Overview of infrastructure: There is one dug well and eighteen private NWSC connections. Most households have private toilets. The paths in the community are paved. There is access to electricity.
- Housing type and density: All the houses are permanent with two or more stories. A few houses are newly constructed. The number of houses has been increasing for the last fourteen years – due primarily to the expansion of family size.

2. Community Profile

Number of households : 120
Average household size : 2.5
Number of dwellings : 120.
Total population : 483
Seasonal variation : No
*72 of which have resident landlords who rent rooms

- Social / ethnic composition: This is a low caste (dalit), Newar community. The Newars are the indigenous inhabitants of the valley. This community is inhabited by Khadgi (butcher) and pode (sweeper) castes.
- Settlement history :

Nepali year	World year	Event
1907	1850	• Families first started settling on this land (according to Daslal Shahi who at 78 is the oldest resident).
2030	1973	• Nine households resided here.
2042	1985	• The surface drainage problem all households had been suffering from climaxed. All the houses flooded and the fire brigade had to be called. After this the drainage system was improved and the flooding problem permanently solved. • The number of houses also increased this year.
2049	1992	• The community was given a notice to stop raising pigs. They protested and came to an agreement with the Lalitpur Sub Metropolitan Corporation (LSMC) which allowed them to raise pigs as long as they were not left to roam unsupervised. • The community constructed an office space for 'Tole

		Sudhar Committee" - responsible for community improvement projects.
2050	1993	• A group of people from the community prepared a play based on Buddha's story and presented in different areas of Patan. • The LSMC organized literacy classes and provided opportunity for training programs.
2053	1996	• The Urban Basic Service project of UNICEF in collaboration with LSMC supported the construction of private toilets, a water supply line and a health center, paving the path, and well maintenance.
2055	1998	• A few community members employed with GTZ retired and received compensation, most of which was invested in housing. • Lumanti started its work in the community.

- Typical occupations / income level: Typical occupations are sweepers, butchers, vegetable shop proprietors, or alcohol brewers. Income ranges from Rs. 600 – 5,000 per month.
- CBO's and their activities: Lumanti has recently supported the formation of saving and credit groups. The community has a TIC with its own community building (consisting of one small room).

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Very good relationship with the ward and the municipality, as much work has been done with the support from the LSMC.
- Perceived security of tenure: It is a permanent community. Families own their houses. Sixteen families (33%) do not have land ownership certificate because during the survey conducted about three decades ago they did not want to pay the survey fee.
- Access to government services: They have access to government services such as electricity, water, drainage, and a paved road and path.

4. External Support

- Previous or current projects: Urban Basic Services (UBS), a UNICEF program, and LSMC has provided the support for following projects: maintenance of the well, brick paving, construction of private toilets, leadership training, training for skill development, and literacy classes for adults and children.
  Lumanti has provided support in the formation of saving and credit groups. A long term development project will take place and activities will be implemented as prioritised by the community.

5. Water supply Facilities

a) Sources and uses

Type of source	Category	No.	Ownership	Use	Typical no. of users per source	Activities done at the water point	Repair Responsibility
Dug well	B4	1	community	Bathing and washing	About 40 HH	washing, bathing	TIC
Private NWSC standpost	D2	15	private	All uses	About 3 HH	washing, bathing	Owner
Private NWSC standpost	D1	3	private	All uses	About 3 HH	washing, bathing	Owner
stone spout (outside community)	A1	1	community	All uses	All 48 HH in times of shortage	None – only water collection allowed.	TIC for other community

- Why does the community use the sources in this way? The well water is regarded as too unclean to drink.
- Do they do any routine household treatment of water? Households practising treatment methods only during the monsoon. The most used method was the cloth filtration and a very few were found boiling water.

b) Accessibility and convenience

- Control of water points; who has access? Private sources are controlled by the owners and available to some neighbouring households. The dug well is controlled by the TIC and accessible to all.

c) Reliability

Source	Category	Hours per day	Seasonal variation
Dug well	B4	24 hrs	No
Private NWSC standpost	D1 / D2	2 - 4 hrs	No
Stone spout	A1	24 hrs	No

- How do people cope and assist each other in times of shortage? Households often go to the stone spout during shortage, which is about fifteen minutes walking distance from community.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
Dug Well	B4	Old – not known	None	None. In 2053/1996 Rs. 10,000 was spent on maintenance borne jointly by the ward and the community but this is unusual.
Private NWSC connection	D1/ D2	Rs. 2,250 – Rs. 3,000. Rs. 1,500* for connection. Another Rs. 750 for hand pump (in 14/18 HH with private taps – 78%) or Rs. 1,500 for electric pump (in 5/18 – 28%). One family has both.	Rs. 45 per month for metered taps (in 15/18 HH – 83%) and Rs. 140 per month for unmetered taps.	Rs. 150 – 200 annually
Stone Spout	A1	Old – not known	None	NA

*This was the price 20 years ago when pumps were installed. Now cost is Rs. 15,000.

e) Collection Time and Consumption

Survey Results

	Volume collected per day (litres)	Time spent collecting water per day (minutes)	Sources used	Storage capacity (litres)
1. Bhuyu Shahi	100	25	NWSC standpost*	35
2. Jagat maya Shahi	35	15	NWSC SP	243.5
3. Bhaicha Pode	75	25	NWSC SP	134
4. Nani Maya Deola	30	4	NWSC SP	39
5. Hira Bahadur Nepali	80	24	NWSC SP	31
6. Hera Kumari Shahi	128	240 (4 hrs)	NWSC SP	145
7. Vishwa Nepali	120	15	NWSC SP	32
8. Dashulal Shahi	147	165	NWSC SP	156
9. Sarita Shahi	35	90	NWSC SP	24
10. Hira Devi Shahi	23	60	NWSC SP	137
11. Keshav Newa	61	30	NWSC SP + Dug well	30.5
12. Ratna Shahi	60	120	NWSC SP	176
13. Dil Krishna Shahi	48	15	NWSC SP	72
14. Raju Shahi	14	5	NWSC SP	216
1. Ratna Bahdur Shahi	60	15	NWSC SP	224
16. Hari Bahadur Shahi	90	20	NWSC SP	300
17. Kanchha Shahi	60	20	NWSC SP	39
Total	1166	888		2038.5
Average	69	52		120

*outside the community

Summary by Source

Source	Category	% of HH in community that use	Measurement (per day)	Mean	Range
NWSC standpost	D1/ D2	100% or 17/17 in survey	Volume (litres)	66	14-147
			Time (minutes)	50	4-240
			Storage (litres)	120	24-300
Dug Well	B4	6% or 1/17 in survey	Volume (litres)	45	-
			Time (minutes)	30	-
			Storage (litres)	30.5	-

Summary by Gender

NWSC standpost	Women in 100% of HH (17/17 in survey)		Men in 11% of HH (2/17 in survey)		Children in 35% of HH (6/17 in survey)	
	Min.	Ltr.	Min.	Ltr.	Min.	Ltr.
	41	62	9	20	29	14

What are the typical storage facilities?

Buckets, gagris, jerry cans, karuwas, plastic containers, phosis, tanfas, and drums.

f) **Details of any water supply projects / schemes in the settlement:** Lumanti has a plan to improve the water supply facilities.

g) **Satisfaction with existing services:** The community is not satisfied with the existing water conditions. They perceive the water quality as bad and four hours of tap water as insufficient. The water points are also few.

6. **Toilets**

a) **Coverage**

Total dwellings	48
No. of dwellings with private toilet (any type)	44
No. of dwellings with no toilet	4
Coverage (%)	91%
No. of public toilets	0

b) **Types of household latrine**

Type	Category	No.	Typical cost / subsidy details*
Permanent superstructure with connection to municipality sewer line.	A1	21	Rs. 3,000-4,000
Semi-permanent superstructure with connection to municipality sewer line.	A2	21	Rs. 2,000-2,500
Temporary superstructure with connection to municipality sewer line.	A3	2	Rs. 1,200

* UBS project contributed Rs. 40,000 to construct latrines for the ten poorest households.

c) **Defecation practices**

- How widespread is open defecation? Since 91% of households have toilets open defecation is not that widespread, but children's habits remain a problem.
- Do all family members use household latrines? Children found using open space for defecation.
- Are any private latrines shared with neighbours? Two private latrines are shared by neighbours. No user charge is paid. In one case, two brothers had jointly constructed a toilet. After an argument between them one brother, along with his family, stopped using the joint toilet. Instead they use the neighbour's toilet.

d) **Details of current or previous sanitation projects / schemes (subsidies?)**

- In 2049/1982 LSMC / UBS programme supported in the construction of private toilets. A total of Rs. 40, 000 was given for the construction of ten toilets. The community added labour and other costs. Lumanti plans to improve sanitation facilities in future.

e) **Satisfaction with existing toilet facilities:**

- How private and convenient are the present arrangements? Some toilets have been installed inside the houses and some outside the houses. The ones inside the houses are convenient to everybody. The walking distance for the outside latrines causes some difficulty for the sick and elderly.
- Overall satisfaction? Low. Households with semi-permanent and temporary toilets are unsatisfied with latrine structures, blocked drainage causes unsanitary conditions for some latrines.

7. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: All the private toilets are connected to municipal sewerage line. However, in some areas drainage seems to be blocked and the waste collects into pools in latrines. Due to the children's habit of open defecation, generally the area around the community is unclean. Garbage is disposed on the roadside despite the presence of a container where waste is collected by the municipality once a day. Some people are depositing waste in the container.
- Monthly costs: None
- Seasonality of problems: None

8. **Health**

- How do the community perceive their health status? Not good
- Common sicknesses and seasonal variation: Diarrhoea, common cold, fever, heartache, and headache. Mostly they get sick in the summer.
- Perceptions of causes of sickness: Bad sanitation in the community, unclean water.

9. **User Aspirations and Willingness to pay**

a) **Problem ranking**

1. Solid waste management - including curbing the habit of open defecation, and general maintenance of the clean environment
2. Drainage - blocked drains

- Other concerns were education (specifically both educational programs for children and literacy programme for adults) and health.

b) Water and sanitation improvements

Water Supply

- What would their preferred facilities look like? Longer hours of water supply in both the private taps and a new communal tap.
- How much more would people pay for improved facilities? Each household may contribute Rs. 200-300.
- What should be the role of each concerned party in making these improvements? A new water source is needed inside this community: Outside help is needed for funding and possibly lobbying NWSC.

Sanitation

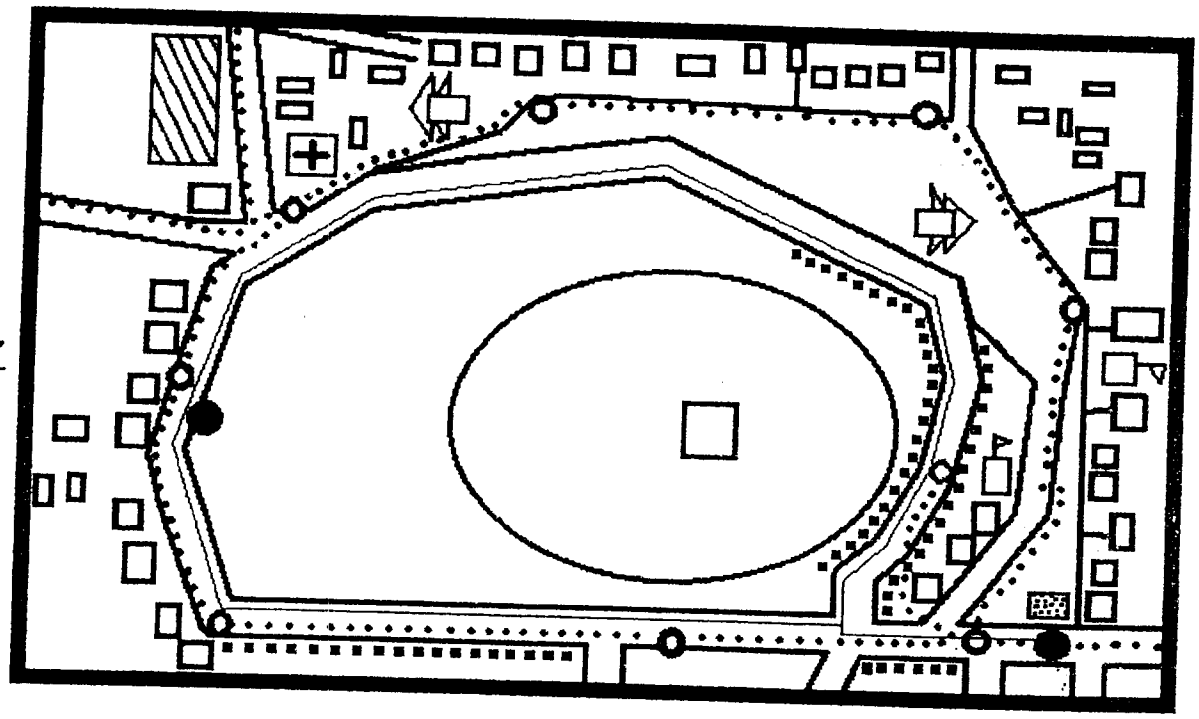
- What would their preferred facilities look like? A clean environment with a working drainage system.
- How much more would people pay for improved facilities? Small cash contribution and mobilisation of local labour for management.
- What should be the role of each concerned party in making these improvements? Outside help is needed in raising awareness and education - local people should be trained. Parents need to encourage their children to always use the toilet. They need to hire some one, salaried, to keep the community clean. A new drainage facility needs to be built. Technical support and a large portion of funding is needed.

Social Map

Nayagan

Overview Map:

- Temple
- Health post
- Garbage disposal area
- Municipal garbage pick-up location
- Sewage connection
- Undergrand sewage line
- Community house
- Cheese and clothing factory
- Store
- Dwelling
- Open toilet area



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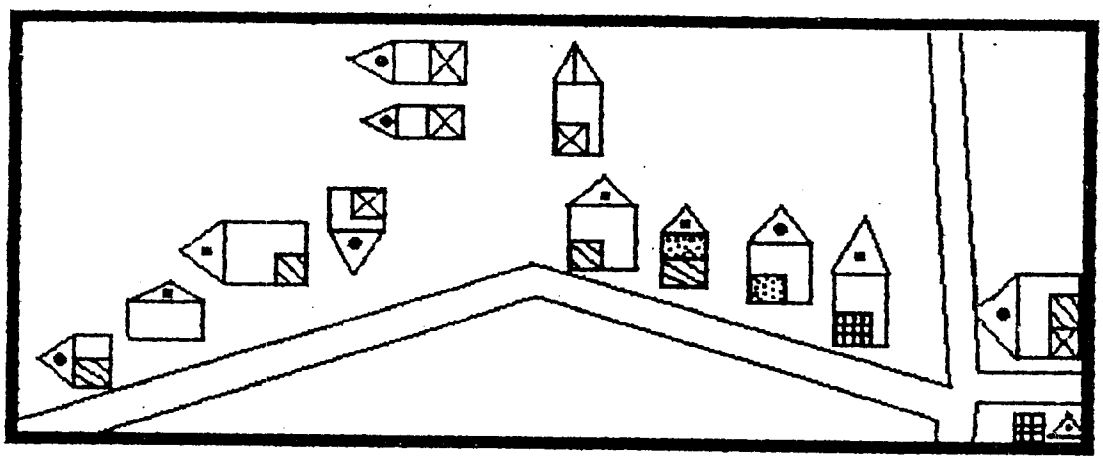
Detailed Map

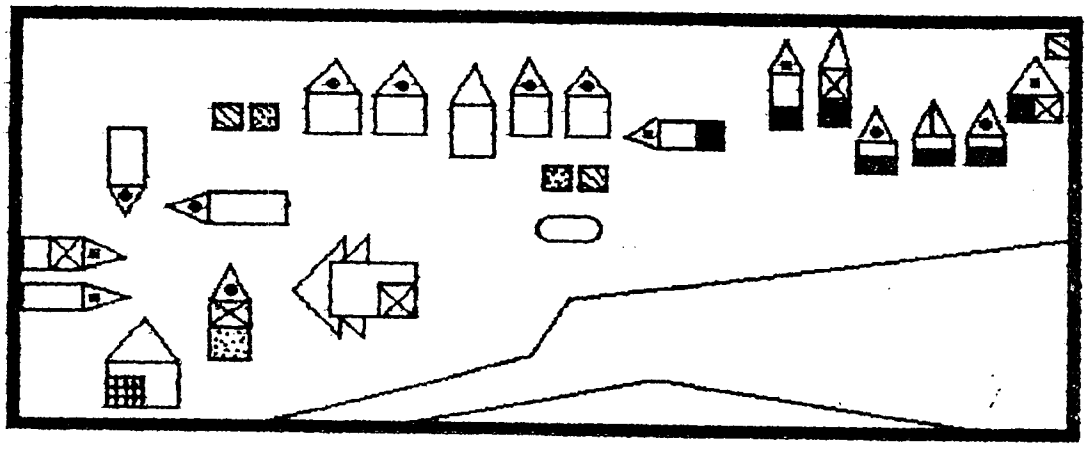
Legend:

- Hand pump
- Power pump
- Private tap/water supply connection
- Holds rented rooms
- Occupied with no land title
- Permanent toilet
- Semi-permanent toilet
- Temporary toilet

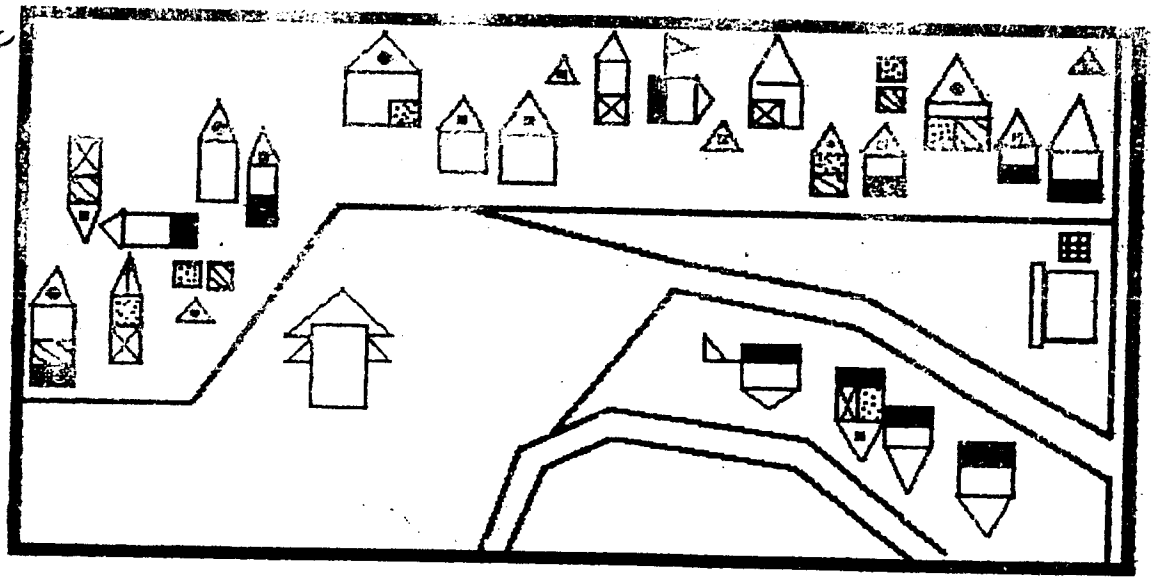
North Side



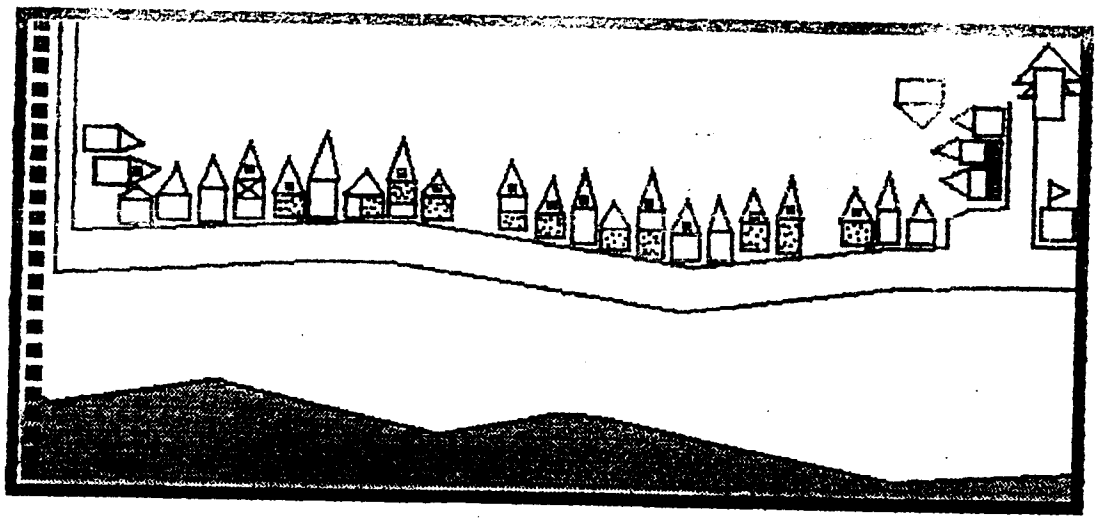
East Side



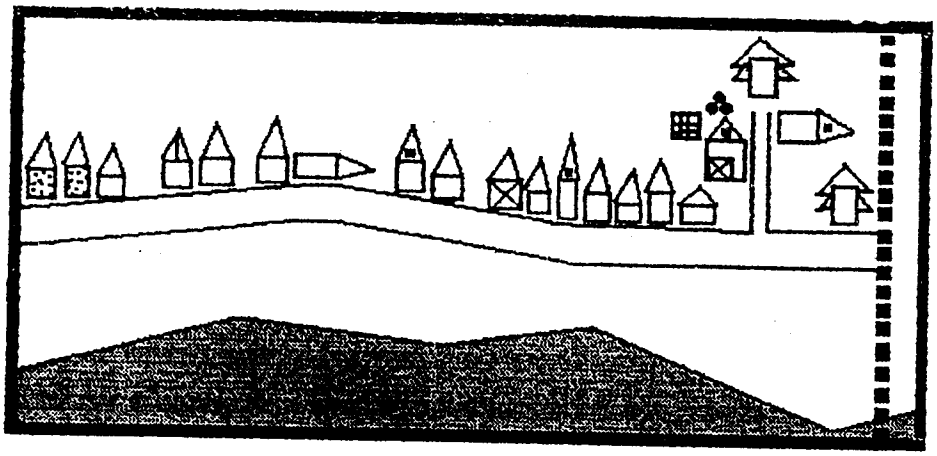
South Side



East Side



West Side



Note: - none of the dwellings have land title. According to Lumanti's definition they are all squatters dwellings.

-all dwelling have electricity. Note however that only one of the dwellings has private electricity. The other obtain their electricity by tapping into nearby established sources (i.e. dwelling with land title).

PROFILE #4

Name of Community	Pobo, Thimi
Type	Slum community
Location	On the side of the maid road to Bhaktapur
Ward	9
Survey dates	20.04.2000

1. Site Description

- Overview of infrastructure: The community has two NWSC communal standposts. There are also four communal dug wells and some households have tube wells or NWSC connections. Not all households have access to toilets. There is access to electricity. Some paths are brick paved, some have gravel and some are unpaved.
- Housing type and density: It is an old and permanent community. The houses are made with bricks.

- **Community Profile**

Number of households : 57
Average household size : 7.2
Total population : 411
Any seasonal variation : No

- Social / ethnic composition: This is a middle or high caste Newar community (Rajbahak, Shrestha, Bhasima, and Prajapati castes). Most are farming households.
- Settlement history :

Nepali year	World year	Event
-	-	This community is many generations old. No one knows for sure but it has definitely existed for over 100 years.
2048	1991	Sewerage line was installed.
2056	1999	NWSC connection installed.

- Typical occupations / income level: Typical occupations are in the service industry, farming, or running small businesses. The income ranges from Rs. 1,000 – Rs. 20,000 per month.
- CBO's and their activities: There is a youth club. When the community is embarking on a project the ward gathers them together.

2. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Relationship with the ward and the municipality is good. NWSC connections have been installed with the co-operation from both.
- Perceived security of tenure: Tenure is secure. This is a permanent community, households own the land their houses are built on.
- Access to government services: There is access to electricity, telephones and NWSC water.

3. External Support

- Previous or current projects / schemes: About nine years ago sewerage pipe was laid with support from the ward and the municipality. The NWSC standposts were installed a year ago. Parts of the path are paved with brick. For this each household contributed labour and Rs. 50 per square ft., on the basis of the length of the house. Lumanti plans to start working with this community in the near future.

- **Water supply Facilities**

a) Sources and uses

Type of source	Category	No.	Ownership	Uses	Typical no. of user per source	Activities done at source	Repair Responsibility
Dug well	B4	4	Community	All uses	Approx. 18 HH	Bathing and washing.	Community youth group collects from all HH.
NWSC unmetered community standposts	B1	2	Community	All uses	Approx. 18 HH	Bathing and washing.	Municipality, although community looks after small things.
Tube well with rower pump	D3	5	Private	All uses	10 HH	Only owners bath and wash. Others collect.	Owner
NWSC private metered connections	D2	4	Private	All uses	4 HH	Only owners bath and wash. Others collect.	Owner

- Why does the community use the sources in this way? All water sources are perceived as suitable for drinking, although less so for the rower pumps.
- Do they do any routine household treatment of water? Most households are using cloth to filter drinking water from the public tap and the well.

b) Accessibility and convenience

- Control of water points; who has access? The community controls the well and the NWSC community taps. The rower pumps and the private taps are controlled by the owners.

c) Reliability

Source	Category	Hours per day	Seasonal variation
NWSC private connections	D2	3 hours	No
NWSC community	B1	3 hours	No

connections			
Dug well	B4	24 hours	Less supply during dry season.
Tube well	D3	24 hours	No

- How do people cope and assist each other in times of shortage? During the shortage, the rower pumps are relied upon more. Some households go to relatives for washing and bathing. Some go to a stone spout, some distance from the community.

d) **Costs**

Type of source	Category	Installation costs	Tariff	Repair Cost
Dug well	B4	NA	None	Rs. 300 annually
NWSC communal standpost	B1	Approx. Rs. 3,000	None for users	None so far.
Tube well	D3	Rs. 2,500	None	Rs. 100 – 200
NWSC private connection	D2	Rs. 3,000 excluding deposits.	NA	NA

e) **Collection Time and Consumption**

Survey Results

Name	Sources used	Total time spent collecting water per day	Total volume collected per day	Storage capacity
1. Buddhi Lal Rajbahak	Dug well	120	60	115
2. Ratna Lal Pila	Dug well	90	45	73
	Community standposts	120	30	
3. Ram Krishna Shrestha	Dug well	90	45	76
	Community SP	60	45	
4. Laxmi Bahadur ajbahak	Dug well	75	75	175
	Community SP	60	45	
5. Shyam Sundar Lama	Dug well	60	30	134
	Community SP	60	30	
6. Hari Bahadur Shrestha	Dug well	120	90	45
7. Neer Kumar shrestha	Dug well	60	60	35
8. Buddhi Bhakta Rajbahak	Community SP	40	40	38
Total		955	595	691
Average		119.4	74.4	86.3

Summary by Source (based on a survey of eight households)

Source	Category	% of HH using	Minutes spent per day		Litres collected per day	
			Average	Range	Average	Range
Dug well	B4	87.5%	87.8	60 – 120	57.8	30 – 90
Community standposts	B1	62.5%	68	40 – 120	38	30 – 45

Summary by Gender
In all of the households in the survey, the women were solely responsible for the collection of water.

d) **What are the typical storage facilities?** Ceramic pots.

e) **Details of any water supply projects / schemes in the settlement?** The NWSC taps were installed a year ago.

f) **Satisfaction with existing services:** Low satisfaction. To save time the women leave the pots in a que. If they stayed instead of the pots, it would take hours. This method makes water collection unorganised.

4. Toilets

a) Coverage

Total dwellings	55
No. of dwellings with private toilet (any type)	31
No. of dwellings with no toilet	24
Coverage (%)	56%
No. of public toilets	None

b) Types of household latrine

Type	Category	No.	Typical cost
Permanent superstructure with connection to main city sewerage line	A1	3	Rs. 9,000 (includes cement, brick, pan, and wages)
Semi-permanent superstructure with connection to main city sewerage line	A2	28	Rs. 6,000

c) Defecation practices

- How widespread is open defecation? The households without toilets defecate outside in the field.
- Do all family members use household latrines? Yes, in those households that own toilets.
- Are any private latrines shared with neighbours? No.

d) Details of current or previous sanitation projects / schemes

- The community supplied labour for a sewerage construction project, which was supported by the ward and the municipality.

e) Satisfaction with existing toilet facilities

- How private and convenient are the present arrangements? People are satisfied with the toilets, although they are of a low standard. They feel that 'something is better than nothing'. Some of the toilets are located outside of the house, which is inconvenient for elderly and young.
- Overall satisfaction: Okay.

5. Solid waste management, drainage, general environmental sanitation

- Summarize current arrangements: They just completed a sewerage line and are connecting the toilets to this line. There is a sweeper working in this community who is paid by the municipality. The ward chair feels that the community was cleaner when they did not have a sweeper and people would clean up after themselves. Now they have become lazy and leave everything to the sweeper.
- Monthly costs: No cost.
- Seasonality of problems: During the rainy season, the path/road gets muddy.

6. Health

- How does the community perceive their health status? Generally okay.
- Common sicknesses and seasonal variation: Diarrhoea during the rainy season.
- Perceptions of causes of sickness: Bad quality water and unclean local environment.

7. User Aspirations and Willingness to pay

a) Problem ranking

1. Access to drinking water
2. Education / awareness
3. Toilets

- Why these priorities? Water is scarce, and this is troublesome and time consuming.
- Other issues arising from discussion: If they had enough water, they would take care of toilet and solid waste management problems themselves.

b) Water and sanitation improvements

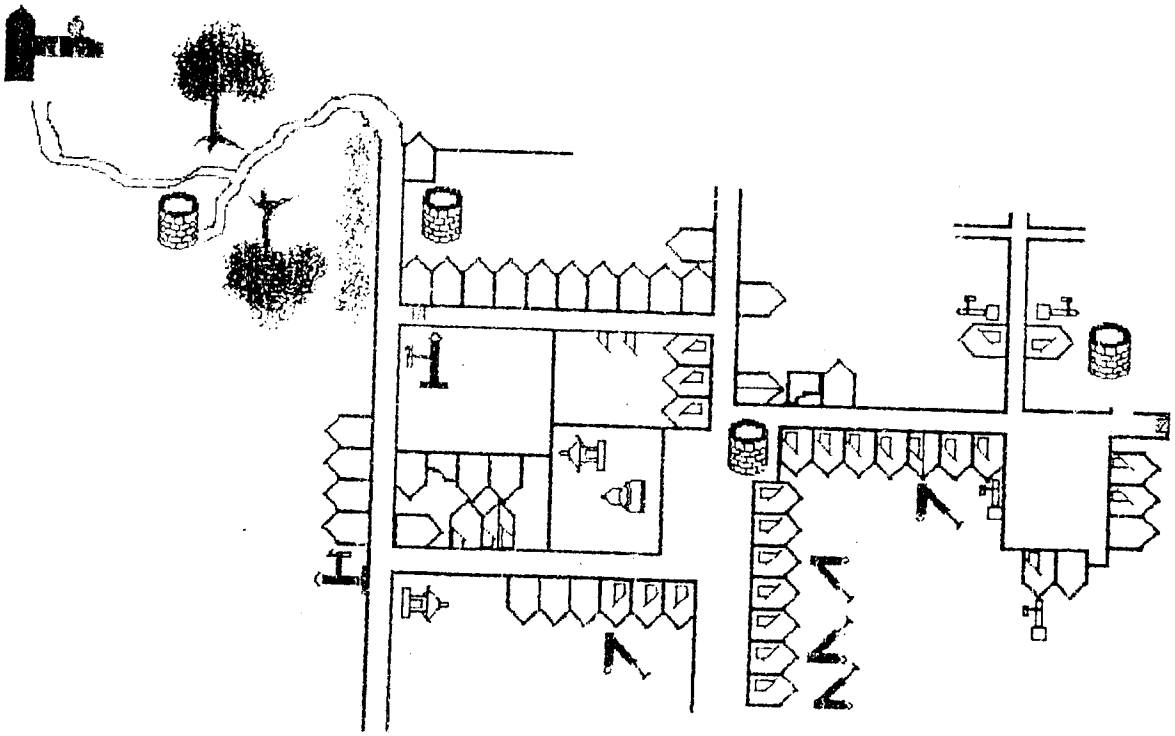
Water Supply

- What would their preferred facilities look like? Easily accessible water, e.g. more public sources.
- How much more would people pay for improved facilities? Rs. 50 per household and labour contributions.
- What should be the role of each concerned party in making these improvements? Overall management by the organisations and labour management by the community.

Sanitation

- What would their preferred facilities look like? This community is satisfied with the present arrangements.
- How much more would people pay for improved facilities? -
- What should be the role of each concerned party in making these improvements? -

POBO, WARD NO - 9
MADHYAPUR, SANOTHIMI



LEGEND

well

private tap

rower pump

chaitya

temple

public tap

stone sprout

latrine

destroyed house

open toilet

house

way under house

Section B:

Squatter Communities

Balaju
Bansighat
Dhaukhel
Dhumakhel
Kapan
Pathivara
Sankhamul

PROFILE #5

Name of Community	Balaju
Type	Squatter community
Location	On the bank of Bishnumati river
Ward	6, KMC
Survey dates	2056.12.5 or 03.18.00

1. Site Description

- Overview of infrastructure: There are eleven shared communal NWSC connections in this community. Some households have rower pumps. There is access to electricity. There is one community primary school. A dirt road goes through the community.
- Housing type and density: The vast majority of the houses (98%) are permanent with tin roofing. There are two temporary houses with the plastic roofing.

2. Community Profile

Number of dwellings : 116
No. of households : 148
Total population : 731
Any seasonal variation : No
Average HH size : 5

- Social / ethnic composition: This is a mixed caste community dominated by hill ethnic groups such as Tamang, Lama, Gurung, Newar, Brahman, and Chhetri.
- Settlement history:

Nepali year	World year	Event
2039	1982	The first families who settled here were low income and had difficulty paying rent. They got permission with the then ward chair to build huts here. Since then, the number of households has slowly increased.
2048	1991	Women and Environment, the municipality, and the community co-operate to install first NWSC connection with a tank. City water pipes are connected to this area.
2051	1994	NWSC installs ten more connections.

- Typical occupations / income level: Typical occupations are carpet/garment/pashmina factory workers, daily wage labourers, construction workers, or tea shop owners. Typical income is between Rs. 2,000 and Rs. 5,000 per month.
- CBO's and their activities: Lumanti supports saving and credit groups, and children groups. There is also a local users group and a health committee. The users group is responsible for community improvement activities.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: The community perceives these relationships as satisfactory.
- Perceived security of tenure: The community does not feel secure. Talk of eviction continually reappears. They would like official documents that guarantee security of tenure.
- Access to government services: There is access to NWSC water, a primary school, and electricity.

4. External Support

- Previous or current projects / schemes: The NGO, Women and Environment, provided support for the construction of a few toilets some years ago. The community started a project to improve their drinking water supply and, with help from Lumanti and another Japanese NGO, supplied themselves with a number of NWSC connections. The school was constructed a few years ago. The community provided labour, while Rs. 70,000 was donated externally.

5. Water supply Facilities

a) Sources and uses

Source	Category	No.	Ownership	Uses	No. of users	Activities done at the tap	Repair responsibility
NWSC metered communal tap (one has a tank)	C2	11	User groups	All uses	About 10 HH*	Collection only	User groups
Private tube well with rower pump	D3	33	Private	All uses	2/3 HH per pump	Bathing, washing etc	Owners
Private tube well with Nepali #6 hand pump	D3	5	Private	Reluctant drinking, and laundry	2/3 HH per pump	Laundry	Owners

*Organised into formal user groups.

- Why does the community use the sources in this way? The community prefers to drink NWSC water, as it is perceived to be cleaner. Since this water runs for only a short time, they have to also rely on the rower and hand pumps. The NWSC user group that has the tank also shares their excess with others. During the monsoon, they are also found using rainwater for bathing, washing, animal feeding etc.

- Do they do any routine household treatment of water? There is a cloth covering the faucet of the communal tap with a tank. A few households are also using cloth filtration on the NWCS taps and the pumps. During the monsoon, a couple households are boiling water.

b) Accessibility and convenience

- Control of water points, who has access? The community NWSC connections are controlled and used by groups of ten households living around each tap. The private water sources are controlled by the owners and shared with two to three neighbours.

c) **Reliability**

Source	Category	Hours per day	Seasonal variation
NWSC communal standpost	C2	4 hrs (rainy) 2 hrs (dry)	Water level goes down in dry season as indicated.
NWSC communal standpost with tank	C2	24 hrs	Water level goes down in dry season.
Private tube wells	D3	24 hrs	Water level goes down in dry season.

- How do people cope and assist each other in times of shortage? Two years ago there was a water shortage due to a leak in the main pipeline. During this time some households bought water from private suppliers. Some collected water from a famous park with twenty-two stone spouts, which is about a thirty minutes walking distance from the community.

d) **Costs**

Type of source	Category	Installation costs	User charges	Maintenance costs
Private tube wells	D3	Rs. 1,800 – 3,000	No charge	Rs. 50 annually
NWSC communal standposts	C2	Rs. 1,500 (divided between user groups)	Rs. 500 – 700 per group, per month*	Approx. Rs. 1,000 annually
NWSC communal standpost with tank	C2	Rs. 51,000** (Rs. 4000 supplied by municipality, Rs. 10 000 collected by community, and Rs. 37 000 supplied by an NGO)	Rs. 500 – 700 per group, per month*	Rs. 500 – 1,000 annually

* Paid on a monthly rotary system.

** Includes laying pipe connection to main water supply.

e) **Collection Time and Consumption**

Survey Results

	Source	Total time spent collecting water per day	Total volume collected per day	Storage capacity
1. Bir Bahadur Tamang	Outside community	30	54	18
2. Buddhi Bahadur Shrestha	NWSC standpost	60	90	85
3. Ruk Bahadur Gurung	NWSC standpost*	6	30	55
4. Dirgha Kumari Magar	NWSC SP with tank*	10	30	45
5. Nir Bahadur Chhetri	NWSC SP with tank*	60	45	47

6. Govinda Karki	NWSC standpost**	90	45	50
7. Dal Bahadur Gurung	Outside community*	90	135	235
8. Siri Maya Lama	NWSC SP with tank*	8	60	79
9. Bhim Bahadur Thapa	Outside community	20	36	93
	NWSC standpost	20	36	
10. Purna Bahadur Gurung	NWSC SP with tank*	10	30	38
11. Krishna Bahadur	NWSC standpost	40	60	NA
Total		444	651	745
Average		40	59	74

* Use this water for drinking and have private pump for other uses

** Use this water for drinking and neighbours pump for other uses

Summary by Source (based on survey of 11 households)

Sources	Category	% of HH that use	Minutes spent per day		Litres collected per day	
			Average	Range	Average	Range
NWSC SP	C2	45%	43	6 – 90	52	30 – 135
NWSC SP with tank	C2	36%	22	8 – 60	41	30 – 60
Outside community	-	27%	47	20 – 90	75	36 – 135

Summary by Gender

The women of the households do all the water collection in this community.

What are the typical storage facilities? Buckets, Jerry cans, Gagris

f) **Details of any water supply projects / schemes in the settlement:** Six years ago the community got approval from the ward for NWSC connections. A Japanese organisation, Reyukai, provided financial support for laying the pipeline. Lumanti provided the necessary rupees for deposits. The community raised funds and contributed labour for the installation of the first four connections. Since then the number of NWSC connections has grown.

g) **Satisfaction with existing services:** Generally this community is satisfied, as connections are now shared between only ten to fifteen households.

6. Toilets

a) Coverage

Total dwellings	116
No. of dwellings with private toilet (any type)	84
No. of dwellings with no toilet	32
Coverage (%)	72%
No. of public toilets	15

b) Types of household latrine

Type	Category	No.	Ownership	Typical cost
Permanent superstructure, with	B1	5	Private	Rs. 9,000 (materials

lined pit				provided by NGO)
Semi-permanent superstructure, with underground connection to the river.	D2	67	Private	Rs. 2,000
Temporary superstructure, with unlined pit.	C2	27	Public/ Private	No cost

c) **Defecation practices**

- How widespread is open defecation? Open defecation is not widely practised but there are occasional cases of people using the riverbank.
- Do all family members use household latrines? Not necessarily.
- Are any private latrines shared with neighbours? Some of the private latrines have been jointly constructed and are shared.

d) **Details of current or previous sanitation projects / schemes?** The NGO, Women and Environment, has supported the construction of some toilets.

e) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements? Some households have toilets next to their houses, which is convenient. For the households with private toilets some distance away, or those using the public latrines, the present arrangements are not convenient. It is especially difficult for the elderly and the children.
- Overall satisfaction: The overall satisfaction is low.

7. Solid waste management, drainage, general environmental sanitation

- Summarize current arrangements / services: 95% of the latrines drain directly into the river, the remaining have lined pits. The solid waste management in the community is generally bad. There is a widespread habit of depositing waste on the bank of the river. The municipality used to provide a collection service for Rs. 50 a month (which was split between all households) but this was terminated without an explanation.
- Monthly costs: None
- Seasonality of problems: No

8. Health

- How does the community perceive their health status? Generally okay.
- Common sicknesses and seasonal variation: In the area where pigs are raised, people complained that they suffer from bites and sores. Diarrhoea is common.
- Perceptions of causes of sickness: Pigs raising and polluted water.

9. User Aspirations and Willingness to pay

a) **Problem ranking**

1st major problem: Lack of drainage facility
2nd major problem: Bad smell

- Why these priorities: Drainage is a big problem especially in the rainy season.
- Other issues arising from discussion: The community is generally worried about the polluted environment and the possibility of catching diseases from the pigs.

b) Water and sanitation improvements

Water Supply

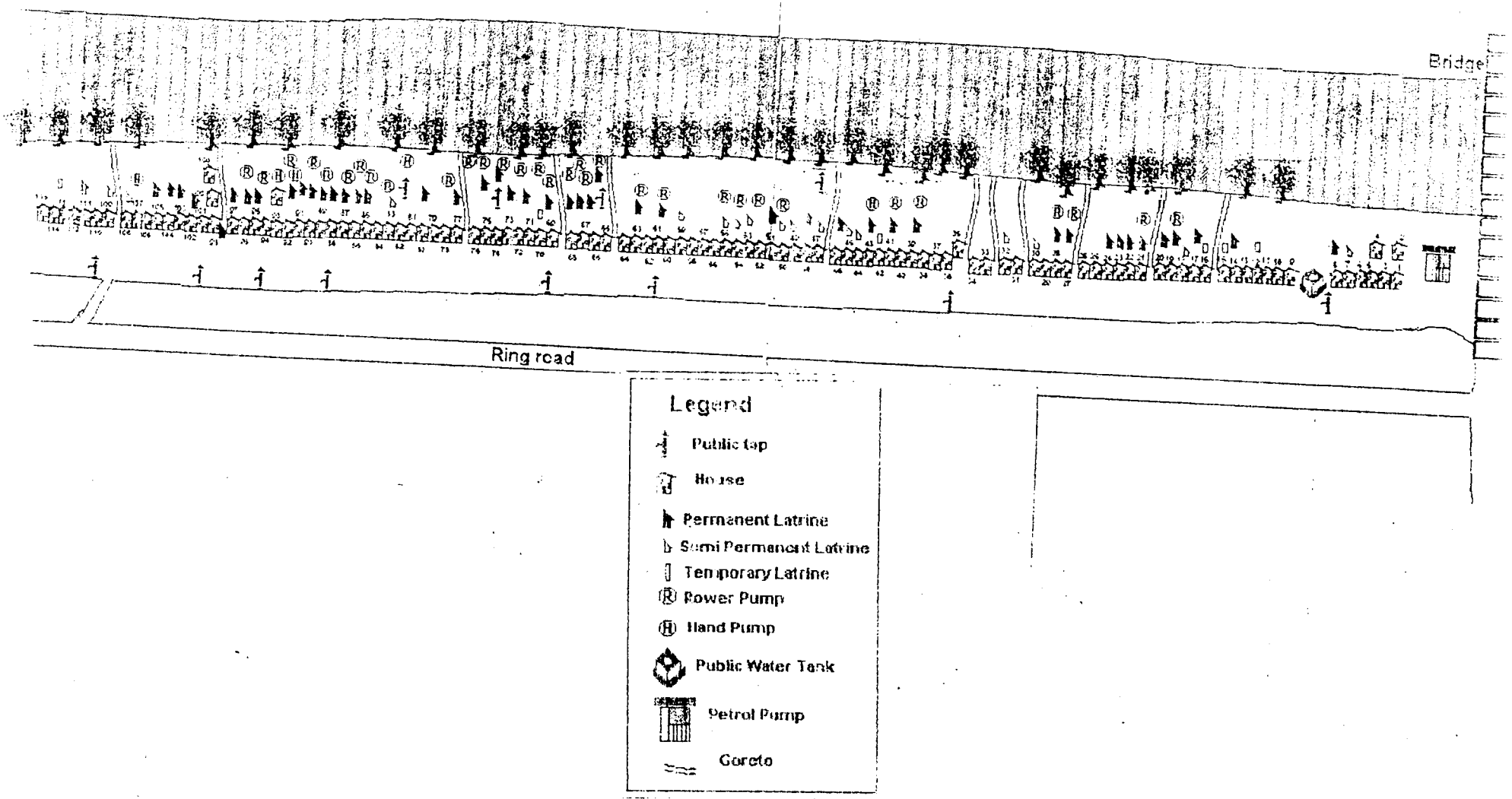
The community is generally satisfied with the current water situation. It is important to note that households are forced to use the tube wells, which are considered unclean, as a source of drinking water. NWSC supply is not sufficient.

- What would their preferred facilities look like? NA
- How much more would people pay for improved facilities? NA
- What should be the role of each concerned party in making these improvements? NA

Sanitation

- What would their preferred facilities look like? Permanent, private toilets for all the households and improved drainage facilities.
- How much more would people pay for improved facilities? Some households have indicated that for drainage, they are willing to contribute Rs. 500, as well as labour.
- What should be the role of each concerned party in making these improvements? Unsure.

BALAJU


Bridge
Ring road
Legend
Public tap
House
Permanent Latrine
Semi Permanent Latrine
Temporary Latrine
Power Pump
Hand Pump
Public Water Tank
Petrol Pump
Goreto

PROFILE #6

Name of Community	**Bansighat**
Type	Squatter community
Location	On the bank of the Bagmati river
Ward	11, KMC
Survey dates	02.23.00 or 2056.11.11

1. Site Description

- Overview of infrastructure: There are two communal NWSC connections. There is access to an unpaved, narrow road. Some houses have metered electricity, which is shared with the neighbours, for about Rs. 100 for one connection per month.
- Housing type and density: Most of the houses are semi-permanent with some permanent. Only two houses are temporary.

2. Community Profile

- Population

Number of households : 119
Average household size : 3.6
Total population : 431
Any seasonal variation : No

- Social / ethnic composition: This is a mixed caste community. Ethnic composition is made up of Magar, Rana, Damai, Brahman, Gurung, Newar and mixed.
- Settlement history:

Nepali year	World year	Event
2046	1989	• Families began squatting in this area
2055	1997	• An eviction notice was issued by the municipal government. The community did not move and no follow up has occurred since. • Lumanti began work in this community.

- Typical occupations / income level: Daily wage labourers, owners of small shops, weavers, domestic servants, drivers, thread spinners. Average income is Rs. 1,000 – 12,000
- CBO's and their activities: Child Workers in Nepal (CWIN) had organised children's literacy classes. Lumanti has been involved in this community for the last three years organising savings and credit, and children's groups. There is a TIC.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: No direct relationship with the municipality but fairly good relationship with the ward office. Ward is providing "welfare services".

- Perceived security of tenure: Fairly confident of the security of the settlement. About three years ago a notice was given to vacate the land with no follow up.
- Access to government services: They have access to electricity, two NWSC water taps, and one private telephone line.

4. External Support

- Previous or current projects: Last year during the election campaign, the community was granted their second NWSC connection. Planning is underway for the construction of a community building. Lumanti and CWIN have histories doing social projects with the community.

5. **Water Supply Facilities**

a) **Sources and uses**

Type of source	#	**Category**	**Ownership**	**Use**	**Typical No. users per source**	**Activities done at water point**	**Repair Responsibility**
Private metered NWSC tap	1	D2	Private	All uses	About 11 HH	Washing and bathing.	Owner
NWSC public standpost	1	A2	Community	All uses	About 20 HH	Not allowed washing and bathing-only filling	TIC
NWSC metered communal standpost	1	B2	Community	All uses	About 20 HH	Not allowed washing and bathing-only filling	TIC
Tube well	1	B3	Community	Washing and bathing	About 83 HH	Washing and bathing.	TIC

- Why does the community use the sources in this way? Most of the households drink water from the NWSC taps. During the dry season, if there is a shortage, they will go to the dug well located at police barrack, about twenty minutes walking distance to collect water for drinking. The tube well and the pond are mostly used for other purposes (i.e. washing, bathing, toilets) as they are considered too unclean to drink from.

- Do they do any routine household treatment of water? Some households are using the cloth filtration for treatment. Some boil water. Some do not treat at all.

b) **Accessibility and convenience**

- Control of water points; who has access? The communal NWSC taps are controlled by TIC and accessible to everyone. One of these is metered and the tariff is split between the users. The other is a public standpost with no tariff. The private connection is controlled by the owner. It is located on his premises and was installed through his initiation. Originally it was meant only for private use, but when the neighbours started collecting water from it, the owner started charging them. It is now accessible only to those who pay.

c) **Reliability**

Source	Category	Hours per day	Seasonal variation
NWSC standposts	A2 / B2 / D2	6 hrs (from 6am – 9am and 1pm – 4pm)	In the rainy season water is available 24 hours.
Tube well	B3	24 hrs	Small decrease in dry season.

- How do people cope and assist each other in times of shortage? Some beg water from the rich neighbours. Some go to the dug well at the police barrack or other public water sources outside the community. Some go to relatives in other communities. It becomes a real problem.

d) **Costs**

Type of source	Category	Installation costs	Tariff	Repair costs
First NWSC communal tap	A1	Rs. 70,000 (2048/ 1991)	None	Around Rs. 300 annually to change the tap.
Second communal NWSC tap	B2	Rs. 15,000 (2055/ 1998)	Rs. 500 – 700 (Approx. Rs. 15 per HH)	Around Rs. 300 annually to change the tap.
Private NWSC tap	D2	Rs. 11,000	Rs. 50 per HH	Around Rs. 300 annually to change the tap.
Tube well	B3	Supported by Lumanti	None	About Rs. 50 to the change washer.

c) **Collection Time and Consumption**

Survey Results for the Dry Season

	Total volume collected per day (litres)	Total time spent collecting water per day	Sources used	Storage capacity
1. Panch Narayan Maharjan	25	10	Public Tap	35
2. Mangal Magar	60	40	Public Tap	45
3. Bal ram Thapa	60	120	Tube well	78
4. Dharma Raj Khadka	75	160	Tube well	38
5. Mina Koirala	410	360	Tube well	343
6. Ram Kumar Pariyar	100	160	Tube well	127
7. Jung Bahadur Thing	70	210	Dug well*	82
8. Kapil Dev Rana	90	150	Dug well*	79
9. Bimala Nepal	10	30	Public Tap	40
10. Nanda lal shrestha	240	160	Dug well*	232
11. Hari Shah	56	120	Tube well	172
12. prem Shahi	60	120	Public Tap	98
13. Jagdish pariyar	60	120	Tube well	45
Total	1316	1760		1414
Average	101	135		108

* At police barrack, outside community

Survey Results for the Wet Season

	Total volume collected per day (litres)	Total time spent collecting water per day	Sources used	Storage capacity
1. Panch Narayan Maharjan	25	10	Public Tap	35
2. Mangal Magar	60	40	Public Tap	45
3. Bal ram Thapa	75	75	Public Tap	78
4. Dharma Raj Khadka	75	75	Public Tap	38
5. Mina Koirala	760	330	Tube well	343
6. Ram Kumar Pariyar	100	75	Public Tap	127
7. Jung Bahadur Thing	70	35	Public Tap	82
8. Kapil Dev Rana	90	36	Public Tap	79
9. Bimala Nepal	20	30	Public Tap	40
10. Nanda lal shrestha	240	80	Public Tap	232
11. Hari Shah	56	40	Tube well	172
12. prem Shahi	30	60	Public Tap	98
13. Jagdish pariyar	60	40	Tube well	45
Total	1664	926		1414
Average	128	71		108

Summary by Source (based on survey of thirteen households)

Source	Category	Dry Season			Wet Season		
		% of HH that use	Average minutes per day	Average litres per day	% of HH that use	Average minutes per day	Average litres per day
Public SP	A2/B2	31%	50	39	77%	51	78
Tube well	B3	46%	173	127	23%	136	292
Dug well*	D4	23%	160	133	-	-	-
Private connection	D2	-	-	-	-	-	-

* Located at police barrack, outside the community.

Summary by Gender (based on survey of thirteen households)

Source	Category	Average minutes per day in dry season			Average minutes per day in wet season		
		Women in 92% of HH	Men in 8% of HH	Children in none of HH	Women in 100% of HH	Men in none of HH	Children in none of HH
Public SP	A2/B2	50	-	-	51	-	-
Tubewell	B3	230	120	-	136	-	-
Dug well	D4	160	-	-	-	-	-

f) **What are the typical storage facilities?** The typical storage facilities are gagris, buckets, jerry cans, plastic containers, and tin drums.

g) **Details of any water supply projects / schemes in the settlement?** Lumanti recently supplied the cost of the tube well.

h) **Satisfaction with existing services?** Problems with water availability in the dry season but sufficient in the wet season.

6. Toilets

a) Coverage

Total dwelling	83
No. of dwellings with private toilet (any type)	25
No. of dwellings with no toilet	58
Coverage (%)	30%
No. of public toilets	0

b) Types of household latrine

Type	Category	No.	Typical cost
Permanent superstructure with lined pit	B1	3	Rs. 8,000
Permanent superstructure with pipe leading directly to river.	D1	3	Rs. 4,000
Semi-permanent superstructure, waste discharged into open, unlined pit.	A2	1	Rs. 1,500

Temporary structure, waste discharged into open, unlined pit.	C2	18	No cost

c) **Defecation practices**

- How widespread is open defecation? With 70% of households without access to a latrine it is a widespread problem.
- Do all family members use household latrines? Yes, in those households who have toilets.
- Are any private latrines shared with neighbours? Some of the temporary toilets are shared.

d) **Details of current or previous sanitation projects / schemes (subsidies?)**

Nothing is going on right now.

e) **Satisfaction with existing toilet facilities:**

- How private and convenient are the present arrangements? For the households with temporary toilets there is no privacy and it is very inconvenient (especially for sick, elderly and women during the night). These toilets have walls made out of plastic sheets and no door.
- Overall satisfaction: Very low.

7. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: The twenty-two toilets without septic tanks (88%) deposit waste directly into open pits or the river. Most solid waste is dumped on the river bank, although some households burn it. There is no government assistance.
- Monthly costs: No
- Seasonality of problems: The monsoon helps to clean riverbank.

8. **Health**

- How do the community perceive their health status? Not very good.
- Common sicknesses and seasonal variation? Dysentery, diarrhoea, fever
- Perceptions of causes of sickness: Poor sanitation and contaminated water.

9. **User Aspirations and Willingness to pay**

a) **Problem ranking**

1. Flooding - every monsoon each house is flooded 3-4 feet
2. The inadequate quality and supply of water
3. Lack of toilets and drainage

- Other issues arising from discussion: Problems related to water and sanitation are foul smell, location of toilets, drainage and inadequate water.

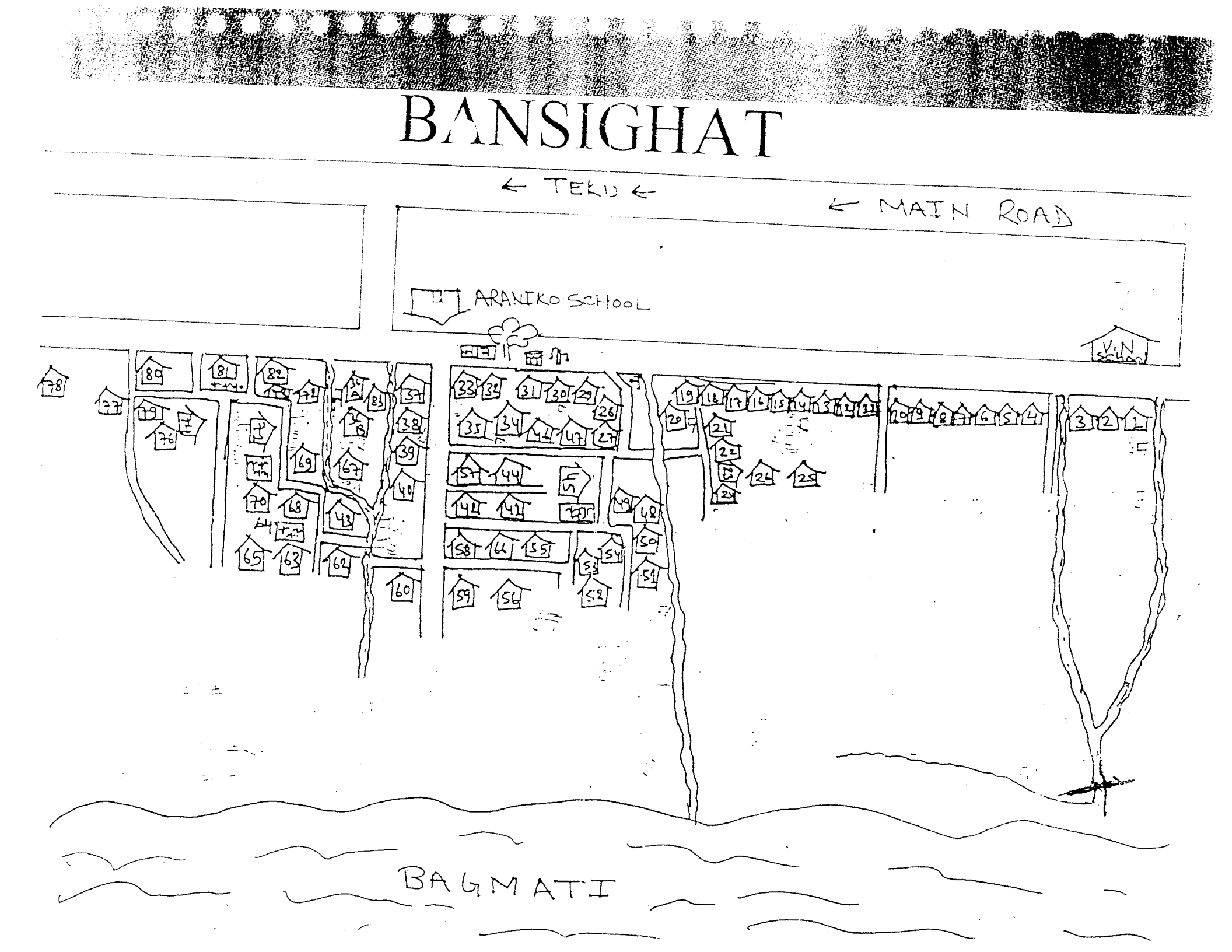
b) **Water and sanitation improvements**

Water Supply

- What would their preferred facilities look like? Not certain
- How much more would people pay for improved facilities? Willing to bear 50% of the cost if there is a good project.
- What should be the role of each concerned party in making these improvements? Not certain.

Sanitation

- What would their preferred facilities look like? Not certain.
- How much more would people pay for improved facilities? Willing to contribute labour and some cash.
- What should be the role of each concerned party in making these improvements? The external organisations would have to provide funds and the community would contribute labour.


BANSIGHAT
← TEKU ←
← MAIN ROAD
ARANIKO SCHOOL
V.N. School
BAGMATI

PROFILE #7

Name of Community	Dhaukhel
Type	Squatter community
Location	On the bank of the Bishnumati river, two minutes walking distance from the main Kalimati road
Ward	13, KMC
Survey dates	31.03.2000

1. Site Description

- Overview of infrastructure: Some households have NWSC connections and toilets. There is a public toilet. Some households have telephones. There is access to electricity.
- Housing type and density: All houses except one are permanent, built with bricks and cement. The community consists of two rows of houses with a walking path in between. The first row is the oldest, with mostly two and three story houses. The second row, which is next to the river bank and was developed as family sizes increased, is made up of one story dwellings.

2. Community Profile

Number of households : 42*
Average household size : 4.5
Total population : 191*
Any seasonal variation : Fluctuation here is due to the coming and going of renters rather than season.
Number of rented dwellings : 5
* excluding renters

- Social / ethnic composition: The majority of this community is low caste. Most families are Sahi and Khadgi (Newars from Kathmandu, not migrants). Few families are ethnic Lama migrants. This community is five minutes away from Kathmandu's main vegetable market and has become a popular spot for vendors to rent cheap rooms. At the time of the survey there were about ten renters living here but this figure fluctuates greatly.
- Settlement history:

Nepali year	World year	Event
2021	1964	• Two dwellings were built on this land. Within a year nine more appeared.
2032	1975	• An additional nine houses were built. • Five households got private NWSC connections.
2037	1980	• Twenty-seven more houses were built.
2040	1983	• Toilets were constructed on the bank of the river.
2052	1995	• The community heard of the purposed Bishnumati Link Project, in which the construction of a road would displace them. They began lobbying for access to compensation in the case that their houses were demolished. The municipality said they would not be eligible as they did not have legal ownership. Although

		the project was never realized the debate is ongoing.
2053	1996	• Public toilet is constructed which is free for residents but for which renters must pay a Rs. 1 fee.

- Typical occupations / income level: Proprietors of meat shops, small restaurants, vegetable shops, garages etc. The income level per family per month varies from Rs. 600 – Rs. 20,000.
- CBO's and their activities: There are saving and credit groups and a TIC (Tole Improvement Committee)

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Generally the relationship with the municipality is regarded as good but there has been tension over the purposed Bishnumati Link Project.
- Perceived security of tenure: The houses are constructed on two sides of the road. The community feels secure about the older houses, on the western side of the road. They do not feel secure regarding the newer buildings on the eastern side, next to the riverbed, due to the road project. However, they do hope get 'lalpurja' (an ownership document).
- Access to government services: Telephone, private NWSC connections, and electricity.

4. External Support

- Previous or current projects / schemes: Three years ago, during an election campaign, the ward provided two 5000 litre capacity tanks to the community. These have not yet been installed due to the lack of space, fear of road project, water shortages etc.

5. Water supply Facilities

a) Sources and uses

Type of source	Category	#	Ownership	Uses	Users per source	Activities done at source	Repair responsibility
NWSC community tap	A2	1	Public	Drinking and cooking	4s HH and renters.	Only collect	Municipality
Metered NWSC taps	D2	11	Private	All uses	3-4 HH	Only owners wash and bath.	Owners
Dug well	D4	3	Private	Garden, washing vehicles, etc.	3-4 HH	Washing	Owners
Tube well	D3	10	Private	All uses	3-4 HH	Only owners wash and bath.	Owners

- Why do the community use the sources in this way? The community prefers to use the NWSC water for drinking and cooking as it is believed to be substantially cleaner. This water is very limited so they must go to others sources for water for other purposes. Households commonly have to leave the community to collect drinking water. This is due to the large crowds and limited supply at the community tap.
- Do they do any routine household treatment of water? Water treatment is not popular. There were two households using a ceramic filter on NWSC water and two households filtering hand pump water – once with a ceramic filter and once by boiling.

b) Accessibility and convenience

- Control of water points; who has access? The public NWSC tap is controlled by the municipality. All households have access to it, but renters have to pay Rs. 5 per bucket. The private sources are controlled by their owners and shared with neighbours.

c) Reliability

Source	Category	Hours per day	Seasonal variation
NWSC Community tap	A2	2 hrs	Yes. Every alternate day during dry season and every day during rainy season.
NWSC Private tap	D2	2 hrs	Yes. Every alternate day during dry season and every day during rainy season.
Dug well	D3	24 hrs	No
Tube well	D4	24 hrs	No

- How do people cope and assist each other in times of shortage? A year ago there was a serious water shortage due to a problem in the main pipe line connection. The shortage lasted for about fifteen days. During that time, people had to walk 30-60 minutes to a neighbour's or relative's house to collect water. The community also hired a mini bus to collect water from Chobhar, about a 30 minutes drive from the community.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
NWSC community tap	A2	Approx. Rs. 8,800 Exact cost unknown because municipality subsidised.	None for locals but Rs. 5 per bucket for renters.	Rs. 100 annually
Private NWSC taps	D2	Total Rs. 8,800. Rs. 100 for deposit, Rs.2000 for labour, Rs. 5800 for materials.	Rs. 200-300 a month	Rs. 100 annually
Private dug well	D3	Rs. 2,800	No charge	Rs. 120 annually
Tube well with hand pump	D4	Rs.2,800	No charge	Rs. 120 annually

e) **Collection Time and Consumption**

Survey Results

	Total volume collected per day (litres)	Total time spent collecting water per day (minutes)	Sources used	Storage capacity (liters)
1. Damar Bahadur KC	30	4	Neighbour's Private Tap	54
2. Thul Kanchhi shahi	150	100	Private Tap	321
3. Krishna Bahadur Phunyal	NA	NA	Private Tap	298
4. Phul Maya shrestha	60	60	Public Tap	86
5. Krishna Pariyar	120	64	Public Tap	105
6. Dhan Narayan shrestha	75	10	Private Tap	470
7. Maili Tamang	60	120	Neighbour's Private Tap	73
8. Kamal Shahi	60	4	Private Tap	75
9. Dharma Ratna Shahi	120	60	Public Tap	165
10. Kanchha Shahi	75	60	Neighbour's Private Tap	258
11. Kanchha Nepali	30	15	Private Tap	80
12. Hari Shahi	30	10	Private Tap	200
13. Raju Nepali	45	90	Private Tap	100
14.	70	60	Neighbour's Private Tap	98
Total	925	657		2383
Average	71	50		170

Note: The above amounts of water collected per day are mainly for drinking and cooking purposes. If they have access, they use water from the wells or hand pumps for bathing, laundry, washing pots etc.

Summary by Source

Source	Category	% of HH in community that are users	Measurement (per day)	Mean	Range
Public NWSC Tap	A2	Approx. 21% or 3 of 14 surveyed.	Volume (litres)	100	60-12
			Time (minutes)	61	60-64
Neighbour's NWSC Tap	D2	Approx. 28% or 4 of 14 surveyed.	Volume (litres)	59	30-75
			Time (minutes)	61	4-120
Private NWSC Tap	D2	Approx. 50% or 7 of 14 surveyed.	Volume (litres)	65	30-150
			Time (minutes)	30	4-100

Summary by Gender

All the water collection was done by women in the surveyed households. One family complained that when children were sent to collect water from a neighbour's private source, they would make an excuse and would not allow the children to collect. Another said that children had a difficult time at the public source due to the crowds.

f) **What are the typical storage facilities?** Gagris, large ceramic containers, drums, and plastic containers.

g) **Details of any water supply projects / schemes in the settlement:** The municipality has provided two public NWSC taps. One is not working.

h) **Satisfaction with existing services:** Satisfaction is very low. The NWSC taps, the only drinkable water sources, have very restricted water availability. Collection time is very high.

6. **Toilets**

a) **Coverage**

Total households	47
No. of households with private toilet (any type)	23
No. of households with no toilet	24
Coverage (%)	48.9%
No. of public toilets	1

b) **Types of household latrine**

Type	Category	No.	Typical cost
Permanent superstructures with a direct underground connection to the river.	D1	24	Rs. 5,000 Bricks and labour – Rs. 3,000 Pipe pan and cement – Rs. 2,000

c) **Defecation practices**

- How widespread is open defecation? The river bank is used for open defecation by both children and adults.
- Do all family members use household latrines? No. Due to the lack of water and the waits (in large households), family members do not always use the toilets.
- Are any private latrines shared with neighbours? Yes.

d) **Details of current or previous sanitation projects / schemes (subsidies?)**
None.

e) **Satisfaction with existing toilet facilities:** Due to the lack of water, the general condition of the toilets is bad. Some are located outside the house and inconvenient for the elderly and sick.
Overall satisfaction: Low.

7. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: Waste, including rotten fruit from the market, is thrown in the river, on the roads and in open spaces making the community very dirty. Waste from the toilet empties directly into the river, which pollutes the area. The surface drainage system is not adequate, as a result the walking path has remained muddy.
- Monthly costs: None
- Seasonality of problems: In the rainy season, the path becomes very muddy.

8. **Health**

- How do the community perceive their health status? Okay.

- Common sicknesses and seasonal variation: Diarrhoea especially in the rainy season.
- Perceptions of causes of sickness: Unclean water, food, and environment.

9. User Aspirations and Willingness to pay

a) Problem ranking

1st major problem – shortage of water during dry season
2nd major problem – unclean environment, muddy path
3rd major problem – high collection time required to collect water

Why these priorities? During the dry season, due to the shortage of water, women can spend the whole day collecting one bucket of water. The muddy path makes movement in the community very difficult. The well water has a bad taste so households prefer to drink NWSC water. The lengthy collection has hampered the women's other work at home.

b) Water and sanitation improvements

Water Supply

- What would their preferred facilities look like? More NWSC taps (e.g. drinking water).
- How much more would people pay for improved facilities? Not certain. But some households showed of willingness to pay Rs. 500.
- What should be the role of each concerned party in making these improvements? Community is willing to provide labour and small amount of money, other responsibilities should be governed by the project.

Sanitation

- What would their preferred facilities look like? Good drainage system.
- How much more would people pay for improved facilities? Not certain. But some households showed of willingness to pay Rs. 500.
- What should be the role of each concerned party in making these improvements? Community is willing to provide labour and small amount of money, other responsibilities should be governed by the project.

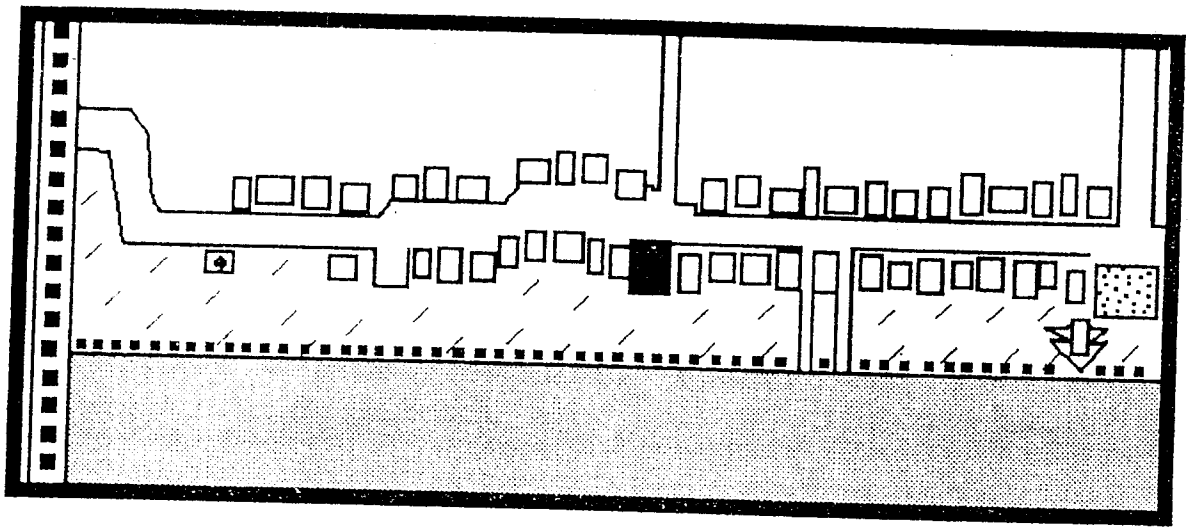
Social Map

Kalimati

Overview Map

Legend:

- Dwelling
- Store
- Public courtyard
- Temple
- River
- Public semi-permanent toilet and water tap
- Open toilet area
- Bridge



Detailed Map

Legend:

... Shared toilet and water source

Rented

Rower pump

Telephone

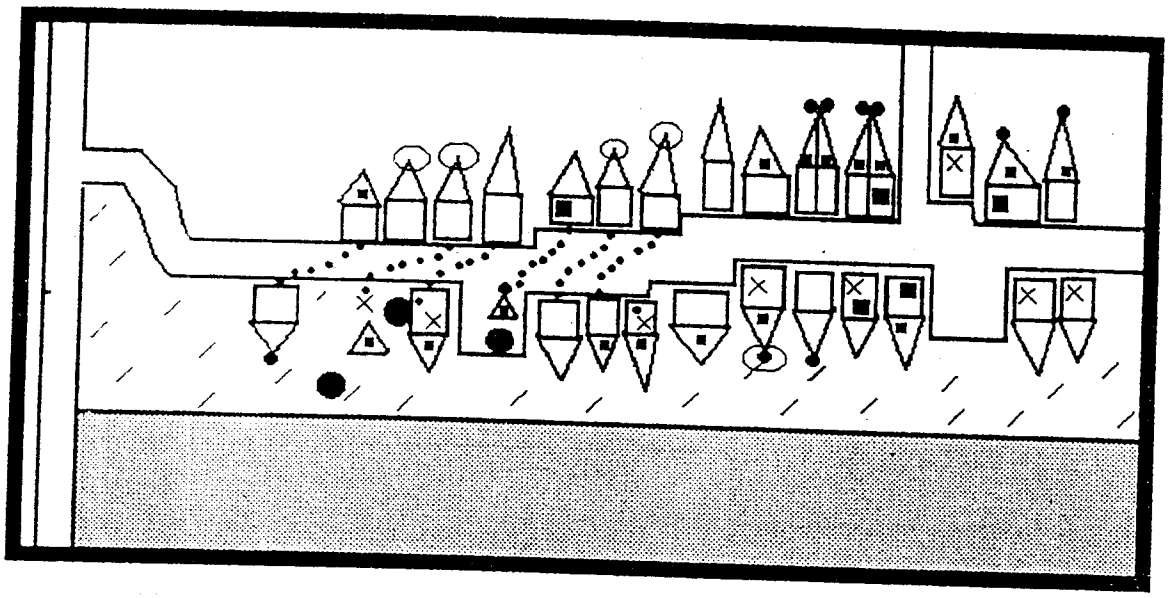
No electricity

Semi-permanent toilet

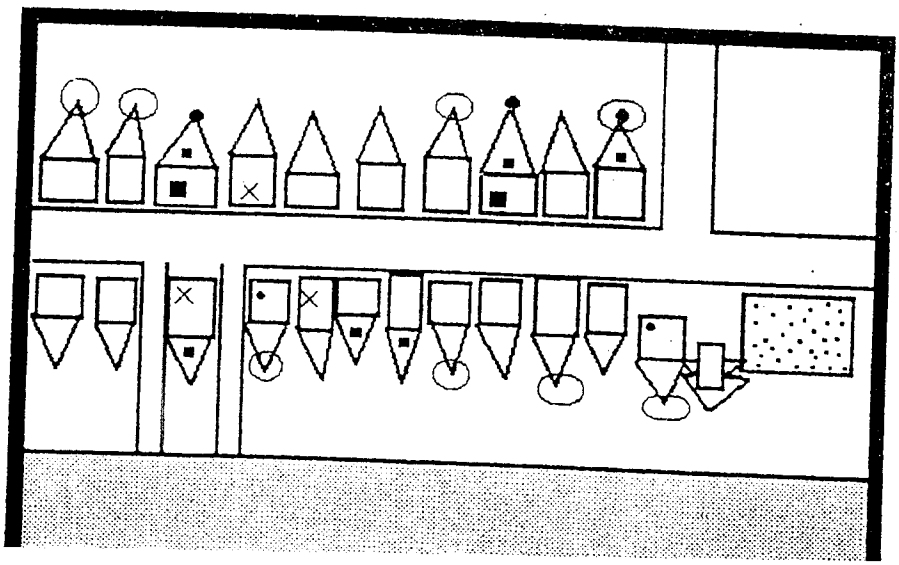
Water tap

Tube well

East Side



West Side



PROFILE #8

Name of Community	Dhumakhel
Type	Squatter community
Location	On the bank of the Bishnumati river
Ward	Ward 15, KMC
Survey dates	20 March 2000

1. Site Description

- Overview of infrastructure: The community is stretched in one line. There is no NWSC water connection. There is only one public water sources in the community - a dug well. The community sits on the bank of the river. There is access to a dirt road. The ward has provided two street lamps. Electricity is available to households via a connection with neighbours. They have to pay about Rs 300/400 for electricity per month.
- Housing type and density: Most of the houses in this community are permanent built of bricks, cement and corrugated sheets with proper doors and windows. There are a few semi-permanent homes with plastic and straw used for the roofs.

- Population:

Number of households : 58
Average household size : 3
Number of dwellings : 47*
Total population : 184
Any seasonal variation : No
* Out of 47, 2 dwellings are empty

- Social / ethnic composition: This is a mixed caste community, dominated by the shai (butcher) castes. There are also Nepali (pode or sweeper) and other Newars, as well as some Chhetris.
- Settlement history :

Nepali Year	World Year	Event
2036	1979	Seventeen families used rope to encroach land.
2043	1986	Number of households reaches twenty-seven.
2046	1989	Number of households reaches forty-five.
2048	1991	Community writes a letter to PM seeking housing rights after rumours of eviction.
2055	1998	Ward sent bulldozer to level area for the purposed Bishnumati Link Road, but it was successfully stopped by community.
2056	1999	Relationship improved with ward committee and assurance given on protection from eviction.

- Typical occupations / income level: Many buffalo butchers, some sweepers. Average income is about Rs. 3,000 per month.
- CBO's and their activities: There is a TIC.

2. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: The community now has a very good relationship with the ward office.
- Perceived security of tenure: The community will have to vacate the area if the proposed Bishnumati Link Road is realised. The construction of the road was proposed few years ago by the Ministry for Housing and Physical Planning in collaboration with KMC, and financial backing from the Asian Development Bank. For various reasons this project could not be completed and it is known that ADB withdrew its support. Recently, an unconfirmed rumour is circulating that the project has been revived and this has once again left the community feeling insecure about tenure.
- Access to government services: The community has access to a waste dumping container, where they discard the solid waste which is collected by KMC twice a week. For the NWSC connection the ward has recommended to go to NWSC. So far, NWSC seems to be responding positively to their request.

3. External Support

- Previous or current projects: None other than the current request for a NWSC water connection, which has been submitted to NWSC.

Water supply Facilities

a) Sources and uses

Type of source	Category	No.	Ownership	Use	Typical No. users per source	Activities done at the water point	Repair Responsibility
Dug well	D4	1	Private	Washing, bathing.	About 12 HH	The owner washes and bathes. Other only allowed to collect water.	Owner
Tube well with rower pump	D3	13	Private	Mostly washing and bathing. Some HH also use for drinking and cooking.	5 – 10 HH	The owner washes and bathes. Others only allowed to collect water.	Owner
River	F1	-	-	Gardening, bathing animals.	NA	Bathing animals.	-
Dug well with	B4	1	Communal	Gardening, washing. Bathing	NA	Bathing for the outsiders. Only water	TIC

hand pump				by outsiders for religious purposes		collection for the community people.	

- Why does the community use the sources in this way? Generally the water from the wells are considered not suitable for drinking. Most households go to the neighbouring community to collect drinking water from a NWSC tap. During the monsoon rain water is also harvested and used for bathing, laundry, kitchen gardening and animal feeding.

- Do they do any routine household treatment of water? Out of fifteen families interviewed, only five families are found to be treating water by cloth filter in dry season. During the monsoon seven families found to be using cloth filtration.

b) Accessibility and convenience

- Control of water points, who has access? The private sources are controlled by the owners but shared with five to twelve households. The communal dug well is controlled and managed by TIC.

c) Reliability

Source	Category	Hours per day	Seasonal variation
Tube well with rower pump	D3	24 hrs	No
Communal dug well with hand pump	B4	24 hrs	No
Private dug well	B4	24 hrs	No

- How do people cope and assist each other in times of shortage? This community has not experienced acute shortage because the rower pumps are very reliable. They are accustomed to using sources outside the community when necessary.

d) Costs

Type of source	Category	Installation costs	Repair costs
Private tube well with rower pump	D3	Total - Rs. 2,000 Labour – Rs. 400 Materials – Rs. 1,600	Annual Cost – Rs. 5,000 Changing the washer about a once month costs Rs. 50. A mechanic is called about twice a year costing Rs. 250 a visit.
Communal dug well with hand pump	B4	Total – Rs. 16,000 Wage – Rs. 4,000 Materials – Rs. 12,000 The funds were donated to TIC by one person with charitable intentions.	Constructed only four months ago annual maintenance charges are unknown.
Private dug well	D4	About Rs.10,000	Annual Cost – Rs. 500

			Only maintenance required is cleaning, done once annually.

e) Collection Time and Consumption

Survey Results for the Dry Season

	Sources used	Total time spent collecting water per day (minutes)	Total volume collected per day (litres)	Storage capacity
1. Damar Bahadur KC	Public standpost (outside community)	10	48	54
2. Thul Kanchhi shahi	PS	120	30	321
	Tube Well	25	75	
3. Krishna Bahadur Phunyal	PS	120	45	298
	TW	60	18	
4. Phul Maya shrestha	TW	90	42	86
5. Krishna Pariyar	PS	80	34	105
	TW	45	34	
6. Dhan Narayan shrestha	PS	60	60	470
	TW	32	60	
7. Maili Tamang	PS	120	200	73
8. Kamal Shahi	TW	10	40	75
9. Dharma Ratna Shahi	TW	5	10	165
10. Kanchha Shahi	PS	30	45	258
11. Kanchha Nepali	PS	60	30	80
12. Hari Shahi	PS	40	30	200
13. Raju Nepali	PS	120	25	100
	TW	20	32	
Total		1047	858	2383
Average		80	66	170

Survey Results for the Wet Season

	Sources used	Total time spent collecting water per day (minutes)	Total volume collected per day (litres)	Storage capacity
1. Damar Bahadur KC	Public standpost (outside community)	20	48	54
2. Thul Kanchhi shahi	PS	120	30	321
	TW	10	30	
3. Krishna Bahadur Phunyal	PS	120	45	298
	TW	60	18	
4. Phul Maya shrestha	TW	90	27	86

5. Krishna Pariyar	PS	30	17	105
	TW	30	34	
6. Dhan Narayan shrestha	PS	60	60	470
7. Maili Tamang	PS	45	75	73
8. Kamal Shahi	TW	10	40	75
9. Dharma Ratna Shahi*	TW	5	10	165
10. Kanchha Shahi	TW	-	-	258
11. Kanchha Nepali	PS	60	30	80
12. Hari Shahi	PS	30	30	200
13. Raju Nepali	PS	120	40	100
	RP	20	32	
Total		840	566	2383
Average		70	47	170

* Unsure as they just took water as they needed it.

Summary by Source

Source	Category	Dry Season			Wet Season		
		% of HH that use	Average min per day	Average litres per day	% of HH that use	Average min per day	Average litres per day
Tube well with rower pump	D3	62%	36	39	58%	32	27
Public standpost outside community	A2	77%	76	55	75%	67	42

Summary by Gender

Women were responsible for 100% of water collection in this survey.

- What are the typical storage facilities? Buckets, gagris, jerry cans, karuwas, drums, ghyampo, and jugs.

f) **Details of any water supply projects / schemes in the settlement**
The community has expressed concern about the lack of easily accessible drinking water. The TIC has made some effort for a NWSC connection. They are still trying.

g) **Satisfaction with existing services:** Due to the long walk to clean drinking water, the community is not satisfied with the existing services.

4. Toilets

a) Coverage

Total dwellings	47
No. of dwellings with private toilet (any type)	17
No. of dwellings with no toilet	30
Coverage (%)	36%
No. of public toilets	0

b) Types of household latrine

Type	Category	No.	Typical cost

Permanent superstructure with an underground connection to the river.	D1	16	About Rs. 2,500
Temporary superstructure with an unlined pit.	C2	1	About Rs. 1,500

c) **Defecation practices**

- How widespread is open defecation? It is widespread because there are thirty families who do not have toilets and defecating on the river bank.
- Do all family members use household latrines? Yes, except for children in the household with a temporary toilet.
- Are any private latrines shared with neighbours? Only two private latrines are shared, each with two or three other households.

d) **Details of current or previous sanitation projects**

Lumanti is interested in improving sanitation facilities.

e) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements? The existing toilets are close to the homes and therefore, very convenient.
- Overall satisfaction: Reasonable.

5. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: Waste from the toilets goes directly into the river through an underground pipe. The community recently took an initiative to manage solid waste. Garbage is dumped in the container (provided by the KMC), which is emptied once or twice a week by the KMC. The person hired for this job is paid of Rs. 1,200 per month.
- Monthly costs: Rs. 20 per household
- Seasonality of problems: Sanitation is worse in the dry season when there is no rain to clear the riverbed of excrement and the waste from animal slaughter.

6. **Health**

- How does the community perceive their health status? They do not feel there is a major health problem.
- Common sicknesses and seasonal variation: Cold, cough, and fever.
- Perceptions of causes of sickness: They were unsure about the reasons for sickness.

7. **User Aspirations and Willingness to pay**

a) **Problem ranking**

1. NWSC connection
2. Education
3. Security of housing
4. Solid waste management

Water Supply

- What would their preferred facilities look like? NWSC communal connection.
- How much more would people pay for improved facilities? They are willing to be responsible for about 50% of the cost. The community agrees that some households would pay less and some would pay more depending on their income level.
- What should be the role of each concerned party in making these improvements? 50% of the total cost and technical support needs to be provided externally.

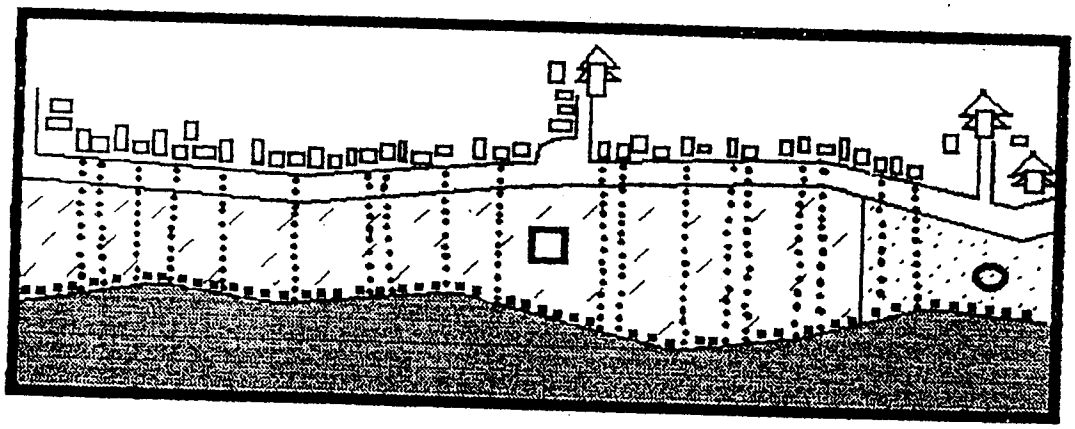
Sanitation

- What would their preferred facilities look like? Construction of open drainage to wash away the waste caused due to the slaughtering of animals.
- How much more would people pay for improved facilities? Labour and some financial contribution.
- What should be the role of each concerned party in making these improvements? They would need outside technical and financial support.

Dhumakel

Overview Map:

- Private garden
- Public Garden
- River
- Community garbage disposal bin; municipal pickup
- Public water well with rover pump
- Dwelling
- Temple
- Underground sewage line; direct connection to river
- Open toilet area



Detailed Map:

- Community house
- Rover pump
- Empty house
- Rented house
- Bridge
- Permanent, private toilet
- Temporary toilet
- Private Electricity

PROFILE #9

Name of Community	Kapan
Type	Squatter community
Location	On the bank of the Khahare Khola (river)
Ward	Mahankal village development committee
Survey dates	04.04.2000

1. Site Description

- Overview of infrastructure: There is one NWSC public standpost which was illegally initiated by the community. There is minimal access to electricity. The environment of the community is generally poor: there is a narrow dirt path, a shortage of water resources, and a foul smell due to the proximity of the community to the river, which is used for drainage.
- Housing type and density: Most of the houses are semi permanent and built of bricks.

2. Community Profile

Number of households : 18
Average household size : 4.7
Total population : 85
Any seasonal variation : No

- Social / ethnic composition: This is a mixed caste community with, Tamang, Lama, Neupane, Sherpa, Khanal , Chalise, and Nagarkoti ethnic groups represented.
- Settlement history:

Nepali year	World Year	Event
2045	1988	The first three houses were built with the permission from VDC.
2050	1993	Three additional houses built.
2051	1994	One house got electricity with the approval from VDC.
2053	1996	NWSC community standpost was constructed and three private toilets were constructed at the personal cost.
2055	1998	Five additional houses built.

- Typical occupations / income level: wage labourer, carpet weaving, animals raising,
- CBO's and their activities: Lumanti has supported women's saving groups, children groups, and users committees.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Good. The VDC supplied them with a water storage tank. Good relationship with NWSC - they now know about the illegal connection
- Perceived security of tenure: The community feels secure, as they have been never given any notice for eviction.
- Access to government services: Electricity and one NWSC standpost.

4. External Support

- Previous or current projects / schemes: Four years ago they installed a NWSC community standpost with the support from the VDC.

5. Water supply Facilities

a) Sources and uses

Type of source	Category	#	Ownership	Uses	No of users	Activities done at the source	Maintenance Responsibility
NWSC standpost from an illegal connection	F3*	1	Community	All uses	18 HH	Collection, washing, bathing.	Users committee
Tube well with rower pump - outside community	B3	1	Community / ward	Washing, bathing.	18 HH and other communities	Collection, washing, bathing.	Community and ward
Tube well with rower pump	D3	1	Private	Washing and cleaning	3 HH	Only owners wash and bath, others collect.	Owner
Natural spring	F1	1	-	Washing only	NA	Washing	-

* Community created their own connection to a NWSC line when they noticed a leak in the pipe. Now the NWSC knows and approves of this connection.

- Why does the community use the sources in this way? The NWSC connection is the only water suitable for drinking. The ward provided a tank to store this water. Now this source is dry and the community is forced to go elsewhere and drink ground water.
- Do they do any routine household treatment of water? No. No household were found using any treatment method.

b) Accessibility and convenience

- Control of water points, who has access? All households have access to NWSC standpost and the communal tube well, each controlled by their respective communities. The owner controls the private source but neighbours have access.

c) Reliability

Source	Category	Hours per day	Seasonal variation
NWSC public standpost	F3	4 hrs (at the time of survey	Less supply in dry

		the tap was not working)	season.
Tube well (outside community, same ward)	B3	24 hrs	No
Private tube well	D3	24 hrs	No

- How do people cope and assist each other in times of shortage? At the time of the survey the NWSC tap was not supplying any water. Households were collecting water from a pump in a neighbouring community, about ten minutes walking distance. Some households were bringing water from their place of work with the permission of their boss.

d) Costs

Source	Category	Installation costs	Tariff	Repair costs
NWSC public standpost	F3	Rs.6,600 The community contributed pipes and labour, and the VDC provided the tank.	Rs. 10 per family, collected by the users committee.	About Rs.100 annually
Tube well - outside community	B3	NA. Installed by VDC.	No charge.	NA
Private tube well	D3	Rs. 2,100	No charge.	About Rs. 200 annually

e) Collection Time and Consumption

Survey Results

	Total volume collected per day	Total time spent collecting water per day	Sources used	Storage capacity
1. Pdam Bahadur Tamang	90	180	Tube well*	83
2. Hari Prasad Chalise	45	45	NWSC standpost	91
3. Nanda Prasad Khanal	36	80	Tube well*	77
4. Hira Maya Tamang	16	30	Tube well *	31
5. Dolanath Kuinkel	39	45	Tube well*	54
6. Nirmal Ale Magar	45	50	NWSC standpost	81
7.	28	30	NWSC standpost	
Total	299	460		
Average	42.7	65.7		

*outside community

Summary by Source (based on a survey of seven households)

Source	Category	% of HH that use	Litres collected per day		Minutes spent per day	
			Average	Range	Average	Range
Tube well*	B3	57%	45.25	16 – 90	83.75	30 – 180
NWSC		43%	39.3	28 – 45	41.6	30 – 50

standpost					

* Public source, outside community.

Summary by Gender
Women did all the water collection in the households in this survey.

f) **What are the typical storage facilities?** Gagris, ceramic pots.

- **Details of any water supply projects / schemes in the settlement**: Four years ago they installed an illegal NWSC public standpost with the support from the VDC. The ward provided a tank, and the community raised funds to purchase pipes and other equipment. The VDC has also sent hume pipes for drainage improvement. However, the quantity of the pipe supplied was insufficient and instead of sending more they just took the initial pipes away. In addition, nine years ago, the community had made an effort to dig a well where the NWSC standpost is located now, they dug 65 ft. down, but did not find a drop of water! The cost for this effort, borne by the VDC, was Rs. 3000.

g) **Satisfaction with existing services:** Low satisfaction. Complaints about high collection times.

6. **Toilets**

a) **Coverage**

Total dwellings	18
No. of dwellings with private toilet (any type)	4
No. of dwellings with no toilet	14
Coverage (%)	22%
No. of public toilets	None

b) **Types of household latrine**

Type	Category	No.	Typical cost
Permanent superstructure with an underground connection to Khahare Khola river.	D1	4	NA

Note: The pan and the walls of the toilets are permanent but they are directly connected to the Khahare Khola river and therefore categorised as semi.

c) **Defecation practices**

- How widespread is open defecation? The families who do not have toilets use the bank of the river and open space for defecation.
- Do all family members use household latrines? Yes, in those households that own toilets.
- Are any private latrines shared with neighbours? No.

d) **Details of current or previous sanitation projects / schemes (subsidies?)**

No sanitation projects yet.

e) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements? Households with private toilets are satisfied with arrangements.
- Overall satisfaction: Good.

7. Solid waste management, drainage, general environmental sanitation

- Summarize current arrangements / services: The households deposit waste in the Khahare Khola river. The toilets drain directly into this river. The general environment is very unclean.
- Monthly costs: No cost.
- Seasonality of problems: No seasonal problems.

8. Health

- How do the community perceive their health status? Generally okay.
- Common sicknesses and seasonal variation: Stomachache, fever.
- Perceptions of causes of sickness: Foul smell, dirty environment.

9. User Aspirations and Willingness to pay

a) Problem ranking

1st major problem - shortage of drinking water
2nd major problem – lack of education/employment
3rd major problem -- lack of toilets
4th major problem – lack of proper drainage

- Why these priorities? The whole area suffers from shortage of drinking water, which makes it difficult to share with neighboring communities. The time spent collecting water interferes with other tasks. The lack of employment has forced people to work for low wages. They are forced to use open space / drainage for defecation due to the financial barrier of toilet construction.

b) Water and sanitation improvements

Water Supply

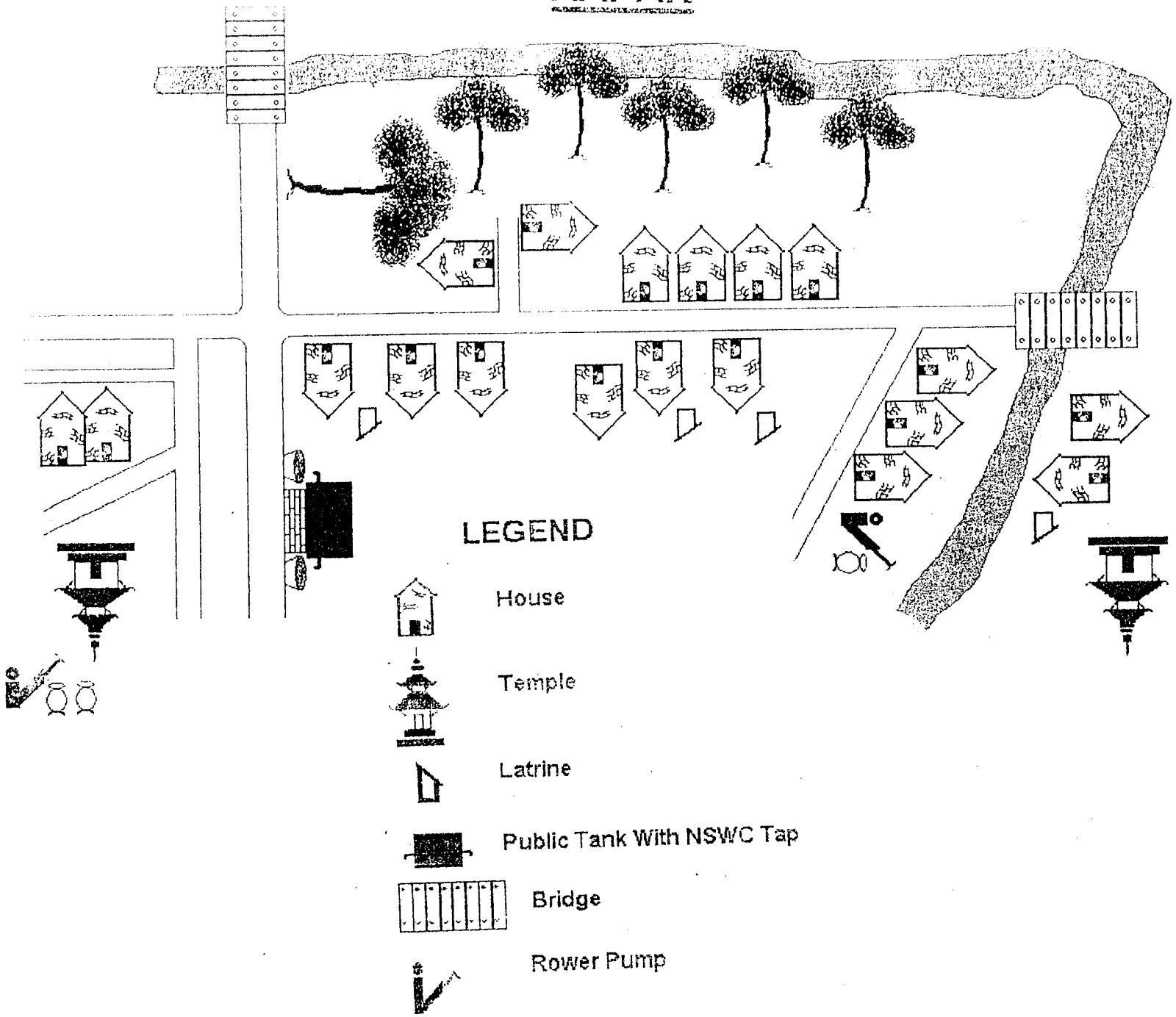
- What would their preferred facilities look like? Regular supply of water from more communal sources.
- How much more would people pay for improved facilities? Community is willing to contribute Rs. 300 per household.
- What should be the role of each concerned party in making these improvements? Community would like to be responsible for all the community level work, and the rest they would like the external organisations to be responsible for.

Sanitation

- What would their preferred facilities look like? Improved and well-managed drainage.
- How much more would people pay for improved facilities? Community is willing to contribute Rs. 300 per household.

- What should be the role of each concerned party in making these improvements? Community would like to be responsible for all the community level work, and the rest they would like the external organisations to be responsible for.

KAPAN


LEGEND
House
Temple
Latrine
Public Tank With NSWC Tap
Bridge
Rower Pump

PROFILE #10

Name of Community	**Pathivara**
Type	Squatter community
Location	On the bank of Dhobi Khola river, Chabahil, Kathmandu
Ward	Kapan VDC, ward 6
Survey dates	15 March 2000

1. Site Description

- Overview of infrastructure: The community lacks adequate basic facilities. The water supply and sanitation systems are poor. The walking path is narrow and unpaved. Some households have direct access to electricity. Some have access through the help from their neighbours to whom they pay about Rs. 50 a month for one connection.

- Housing type and density: All the houses are single floor and the building materials used are bricks, tins, bamboo, plastic, discarded boxes, corrugated sheets, etc. A high percentage of the houses are semi permanent (tin, bamboo, bricks), with only a few permanent structures (brick, cement) The community covers about 0.25 sq. kms.

2. Community Profile

Number of households : 187
Number of dwellings : 158*
Average household size : 3.5
Total population : 655
Any seasonal variation : No
* Excludes 15 empty houses

- Social / ethnic composition: Rai, Gurung, Lama, Bahun, Chhetri, and Newar. This is a mixed caste community.
- Settlement history :

Nepali year	World year	Event
2053	1996	Quite suddenly huts were seen growing in this area. In a few days, over 150 households covered the area. At first there were only skeletons of houses. Over time these turned into temporary buildings.
2056	1999	Construction of the school. This prompted more permanent housing structures.

- Typical occupations/income level: Men are carpenters, metal workers, and builders outside of the home. Women spin wool or farm livestock from the home. Average household income is Rs. 3,960 a month
- CBO's and their activities: There is a Tole Improvement Committee, four women's saving and credit groups, a children's group, a youth group and a construction committee. The construction committee is responsible for community improvement activities such as the construction of the primary school.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: The VDC has provided moral support by allowing the people stay in that area. The VDC also gave permission for the construction of the school. The community has not received any public services from government agencies save support by the KMC of two literacy classes for children.
- Perceived security of tenure: The community seems to have a high level of confidence in the security of tenure. This could be due to the moral support from the VDC chair and practical support from Lumanti. The construction of the school has had a great impact on perceived security. Since it started many households have begun investing in the improvement of their own homes.
- Access to government services: There is electricity. KMC provides two teachers salaries for children's literacy classes. UNICEF provides the funds to KMC for this project.

4. External Support

- Previous or current projects / schemes: Lumanti has been involved in this community since 1999 training women's saving groups and providing them with access to credit. Support has also been provided in the construction of the school, which was perceived as the biggest need by the community last year. KMC is supporting two literacy classes for children. Lumanti continues to work there and has a plan for improvement projects.

5. Water supply Facilities

a) Sources and uses

Type of source	Category	No.	Ownership	Typical no. of users per source	Activities done at water point	Use	Repair responsibility
Private tube well with rower pump	D3	3	private	8-10 HH	Owners wash, bath etc. But the neighbours are only allowed to collect water	All uses	Owner
Communal tube well with rower pump	B3	2	community	80-85 HH	Washing, bathing,	All uses	TIC
Public NWSC standpost (25 min walk)	A2	1	public	36 HH – 23% or 6/26 in survey	Bathing, washing pots etc.	All uses	Ward
River	F1	1	-	91 HH – 60% or 15/26 in survey	Washing and bathing	Not used for cooking, drinking	
Rainwater	F2	-	-	67 HH – 42% or 11/26 in survey	Washing and bathing	Not used for cooking, drinking	

*There is also one communal rower pump, which has not been working for quite some time.

- Why does the community use the sources in this way? The water supply is not adequate. Households must use the river for laundry and bathing to avoid the crowd at the tube well. The river water is very dirty but the people say that it is bit cleaner if they walk few minutes upstream. The river water is used mostly in the dry season, as it gets flooded in the monsoon and cannot be used. Only one quarter of households walk the long distance to the public tap to collect what they perceive as cleaner drinking water.

  Are households practising any treatment of water? The people are aware about the idea of water treatment but not a single family actually treats their drinking water.

b) Accessibility and convenience

- Control and access of water points: Private pumps are controlled by the owner but accessible to the neighbours. Public pumps are controlled by the TIC.

c) Reliability

Source	Category	Hours per day	Seasonal variation
River	F1		Less flow during dry season
Public standpost - outside community	A1	4 hrs. (two in the morning and two in the evening)	During the dry season only available on alternate days.
Tube well	B3 / D3	24 hrs.	No variation

- How do people cope and assist each other in times of shortage? No acute shortage has been experienced, since the tube wells are a consistent, reliable source.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
Private tube well	D3	Rs. 2,300 Labour – Rs. 400 Materials – Rs. 1,900	None	Annual Cost: Rs. 450 Maintenance done three times a year.
Communal tube well	B3	Rs. 2,300 Labour – Rs. 400 Materials – Rs. 1900	None	Annual Cost: Rs. 1,400 Overall maintenance is required once a year costing Rs. 800. Other small maintenance costs about Rs. 600 a year.
Public standpost – located outside the community	A1	NA	None by users	NA

e) Collection Time and Consumption

Survey Results

	Total volume collected per day (litre)	Total time spent collecting water per day (mins)	Sources used	Storage capacity
1. Tarak Maya Chaudhary	30	15	Tube well	12
2. Pushpa thapa	30	10	TW	16
3. Kalpana Magar	34	55	Standpost + TW	24
4. Nirmala Rai	27	15	TW	13
5. Sunita Chaudhary	30	15	TW	27
6. Shova Pariyar	10	30	TW	9
7. Nirmala Lama	15	5	TW	41
8. Pavitra Kafle	25	30	TW	25
9. Binoo Darji	45	45	TW	29
10. Gauri Chaudhary	60	40	TW	18
11. Ram maya Lama	30	90	Standpost + TW	34
12. Ambika Karki	45	60	TW	52
13. Kaudhila Rai	45	30	TW	34
14. Sancho maya Rai	30	20	TW	17
15. Thuli maya Lama	50	30	TW	31
16. Chandra Pariyar	100	120	TW	37
17. Anu Bhujel	60	60	TW	29
18. Rupa bhujel	110	100	TW	53
19 Ratna shova Magar	45	60	TW	36
20. Lal Bahadur Magar	45	30	TW	31
21. Desh Maya subba	10	10	TW	35
22 Kanchhi Tamang	93	115	Standpost + TW	41
23. Dil Kumari Tamang	35	60	TW	80
24. Nain Kala Subba	25	70	Standpost + TW	42
25. Santa Kumari Sadhu magar	10	5	TW	19
26. Ram Kumari Bhattarai	105	80	TW	62
27. Shanti Rai	40	40	TW	21

28. Reeta Dahal	50	40	TW	26
total	1234	1175		894
Average	44	42		32

Summary by Source

Source	Category	% of HH in community that use	Measurement (per day)	Mean	Range
Public standpost	A1	14%	Volume (ltr.)	11	9-15
			Time (min)	45	30-60
			Storage (ltr.) - *all HH also using RP	35	24-42
Tube well	B4/ D4	100%	Volume (ltr.)	44	10-110
			Time (min)	42	5-120
			Storage (ltr.)	32	9-80

Summary by gender

Tube well	Women in 100% of HH (28/28 in survey)		Men in 25% of HH (7/28 in survey)		Children in 25% of HH (7/28 in survey)	
	min	Ltr.	min	Ltr.	min	Ltr.
	47	34	37	22	42	22

Public standpost	Women in 15% of HH (4/28)		Men in 0% of HH		Children in 3% of HH (1/28)	
	min	Ltr.	min	Ltr.	min	Ltr
	45	12	-	-	60	5

f) Storage

- Typical household storage arrangements including capacity (litres):
  Gagri – 15, Jerry can – 5, Karuwa – 1, Jug – 2, Kettle – 3, Bucket – 10, plastic container – 25

f) **Details of any water supply projects / schemes in the settlement**

- Lumanti plans to support in improving water supply.

g) **Satisfaction with existing services:** Low satisfaction.
Complaints:

- large crowds and few water points creating lengthy collection times
- bad water quality
- public tap is too far away from the community.

6. Toilets

a) Coverage

Total dwellings	158
No. of dwellings with private toilet	11
No. of dwellings with no toilet	144
Coverage (%)	8.8%*

No. of temporary public toilets – open 24 hours	3
No. of shared toilets – locked and used by only sharing families.	3* (shared by 5 HH, 3 HH and 2 HH)

* Including private toilets.

b) **Types of household latrine**

Type	Category	No.	Typical cost
Permanent superstructure with lined pit	B1	1	Rs. 5,000
Semi permanent superstructure with underground connection to river	D2	10	Rs. 2,500
Temporary superstructure, depositing waste directly into river	E3	6	About Rs. 1,000 – 2,000

c) **Defecation practices**

- How widespread is open defecation? It is a big problem. Almost everybody defecates in open spaces and on the riverbanks.
- Do all family members use household latrines? Not necessarily the men and children
- Are any private latrines shared with neighbours? There are three shared latrines. All user households invested in their construction. These shared latrines are kept locked.

- Previously, three shared latrines were constructed with each household contributing about Rs. 100. They were kept locked but other community members would regularly brake in. Eventually these ended up being public toilets. The three shared latrines constructed much later seemed to be successful in avoiding this problem.

d) **Details of current or previous sanitation projects / schemes**

- Lumanti has a plan for improved sanitation.

e) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements? Private latrines inside the houses are convenient for the family members. The shared toilets are outside - located some distance away from the house and are not suitable for the sick and elderly, or for women during the night. The condition of the latrines is unhygienic.
- Overall satisfaction: The users are not satisfied with shared latrines.

7. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: Only one of sixteen toilets contains waste in a lined pit. The others deposit excrement and urine directly into the river. Solid waste is disposed of on the riverbanks and in open areas. There are no services provided.
- Monthly costs: None
- Seasonality of problems: During the dry season, the waste remains deposited on the riverbank, which makes the whole environment smelly and unclean. During the monsoon, the river washes away the waste and hence less problem.

8. **Health**

- How do the community perceive their health status? Not good

- Common sicknesses and seasonal variation: Diarrhoea, dysentery, and typhoid.
- Perceptions of causes of sickness: Water borne.

9. User Aspirations and Willingness to pay

a) Problem ranking

1. Drinking water – specifically the need for more rower pumps
2. Toilets
3. Education
4. Solid waste management
5. Drainage

b) Water and sanitation improvements

Water Supply

- What would their preferred facilities look like? An extra four communal rower pumps.
- How much more would people pay for improved facilities? Labour contribution.
- What should the role be of each concerned party in making these improvements? The community would take responsibility for installation labour and maintenance of the pumps.

Sanitation

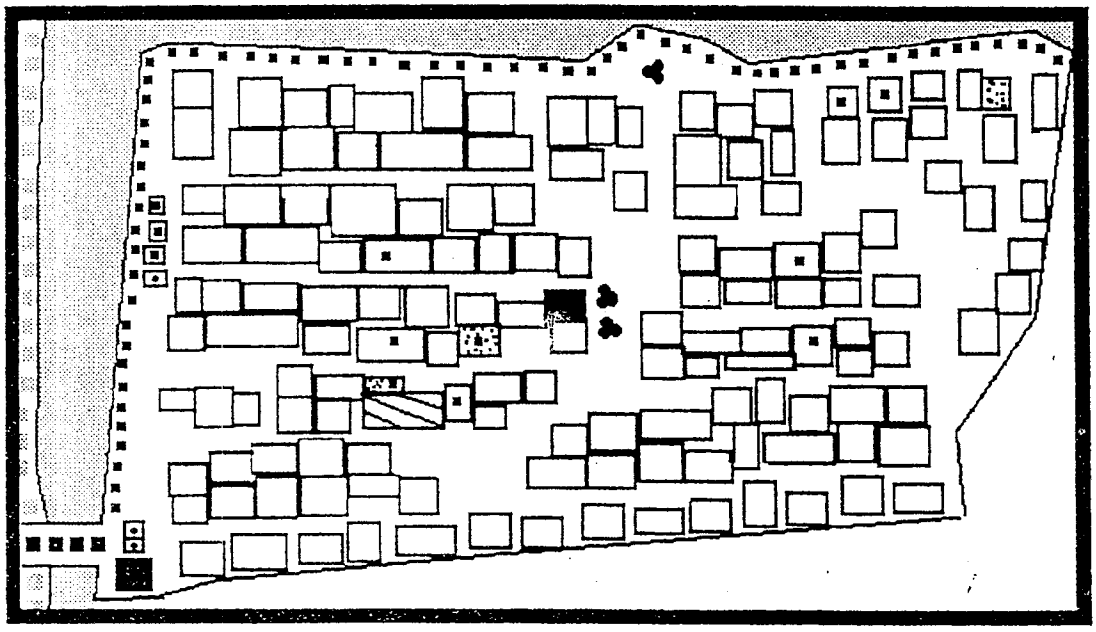
- What would their preferred facilities look like? Controlled solid waste management to end the depositing of solid wastes on the bank of the river.
- How much more would people pay for improved facilities? The community would maintain solid waste management. They have already started cleaning the riverbank once a month.
- What should be the role of each concerned party in making these improvements? Improved services from the government. Support from the NGOs for implementation.

Social Map

Pathibhara

Legend

- Dwelling
- School
- Private tower pump
- Store
- River
- Private semi-permanent toilet
- Garbage disposal area
- Bridge
- Open toilet area
- Public semi-permanent toilet
- Public tower pumps



Z →

PROFILE #11

Name of Community	Sankhamul
Type	Squatter community
Location	On the bank of the Bagmati river, Kathmandu
Ward	Ward 10, KMC
Survey dates	2056. 11.23 or 02.06.00

1. Site Description

- Overview of infrastructure: This community lies on the bank of the Bagmati river. There is access to the wide unpaved road. The community stretches like a long line. During a recent election campaign the ward provided two 5000 litre capacity tanks for water storage. The tanks are filled by water pumped from a tube well. There are sixty-two houses with meter boxes for electricity, others share from them.
- Housing type: Almost all the dwellings are permanent. The community was surveyed by the city and the first twenty-four houses on the line had been mapped.

2. Community Profile

Number of households : 99
Average household size : 5
Total population : 504
Any seasonal variation : No

- Social / ethnic composition: This is a mixed caste community. Mostly hill ethnic groups such as Tamang, Magar Laman, Newar, chhetri, brahman, and Biswokarma.
- Settlement history:

Nepali year	World Year	Event
2030	1973	Families began to settle in this area. In the beginning they had conflicts with other neighbouring communities.
2042	1985	They got verbal approval from the ward to occupy this area.
2043	1986	One house was affected by flood.
2044	1987	They were provided with block numbers (house numbers). Although this does not mean that they are completely safe from eviction it is perceived as positive recognition.
2051	1994	A UN park project wanted to put pillars marking this as a park area, which the community successfully stopped. The TIC was registered with the Chief District Office.
2055	1998	A community member played a lead role in building solidarity among all the squatter communities in Kathmandu. As a result a central committee of squatters was formed.

- Typical occupations / income level: Typical occupations are in offices, spinning thread for carpets, running small tea shops, or as wage labourers or porters. Two families have a small cow farm. Income ranges from Rs. 900 – Rs.10,000.

- CBO's and their activities: Lumanti has been working in this community for the last year. Children's groups, and women's savings and credit groups (with a total membership of eighty-four), have been formed.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: The community deals with the ward office, rather than to the municipality directly, as it has more decision making power. This community has a good relationship with the ward. They gave permission for the construction of the community building as well as a written promise to provide Rs. 70,000 for this cause.
- Perceived security of tenure: Six years ago the government proposed construction of a 'UN Park' on the bank of the Bagmati river. The community protested to the ward and other concerned offices for their right to housing. This project was never realized due to a lack of funds. The people are more confident now and the ward gives moral support. The squatters association continues to lobby the Kathmandu District Committee to look at "the squatter issue".
- Access to government services: Sixty-two households have access to electricity and share with their neighbours. There are four private NWSC connections that have been dry for the last four years

4. External Support

- Previous or current projects / schemes: A community building is under construction. For this project, Lumanti is contributing Rs. 100,000, the community is contributing Rs. 40,800 and the ward has promised to contribute Rs. 70,000. Lumanti has also organized tuition classes, and a library for the children.

5. Water supply Facilities

a) Sources and uses

Type of source	Category	#	Ownership	Use	Typical No. users per source	Activities done at the water point	Repair responsibility
NWSC metered connections	D2	4	Private	No supply for the last 4 years	-	-	Owner
Dug well with rower pump	B4	2	Community	All uses	All 49 HH	Washing, bathing.	TIC
Tube well feeding two tanks with electric pump.	B3	1	Community	All uses	All 49 HH	Washing, bathing.	TIC
Tube well	D3	1	Private	All	1 HH	Washing,	Owner

with Nepal #6 HP				uses		bathing.	
Tube well with rower pump	D3	4	Private	All uses	4-5 HH	Only the owners wash and bath. Others just collect.	Owner
Stone spout – outside community	A1	2	Community	All uses.	About 20 HH from Sankha mul use it	Washing and bathing.	Neighbouring TIC

- Why does the community use the sources in this way? The community uses the tube and dug wells for drinking water. Some households collect drinking water from the stone spout, which is about twenty minutes away, to avoid the crowds at the local sources. The wells are the only reliable source of water inside the community in both seasons.
- Do they do any routine household treatment of water? The interviewed households either boil, cloth filter, or ceramic filter their water. One family was found using a strainer.

b) **Accessibility and convenience**

- Control of water points; who has access? The private water sources are controlled by the owners. There is a water management committee who is responsible for cleaning and maintenance of the tanks.

c) **Reliability**

Source	Category	Hours per day	Seasonal variation
Tube wells	B3 / D3	24 hrs	No
Stone spout (located outside the community)	A1	24 hrs	No
NWSC private connection	D2	dry	No
Dug well	D4	24 hrs	Level goes down during dry season

- How do people cope and assist each other in times of shortage? They said if there is a shortage they would go to stone spout, which is about twenty minutes walking distance.

d) **Costs**

Type of source	Category	Installation costs	Tariffs	Repair costs
Private tube well	D3	About Rs. 1,800 each This includes materials and labour but excludes platform. One was invested in by all HHs that use it.	None	Rs. 75 annually to change washer
Dug well with rower pump	B4	Rs. 12,000	None	Unknown

Communal tube well (fed with electric pump)	B3	More than Rs. 5,000 for paving the yard for water collection. 2 tanks and two machines were provided by the ward.	None	Rs. 600 annually for repairing of the electric pump.
Tube well with Nepali #6 hand pump	D3	Rs. 2,500	None.	Rs. 200-300 annually

e) **Collection Time and Consumption**

Results of Survey in the Dry Season

	Sources used	**Total time spent collecting water per day (minutes)**	**Total volume collected per day (litres)**	**Storage capacity**
1. Ramesh Karmacharya	Dug well	4	30	20
2. Sanu bhai Pariyar	Dug well	90	90	564
3. Prakash Lama	Dug well	200	90	374
4. Dhan Bahadur Thapa	Public tube well	90	90	34
5. Sitaram Nayan Magar	Private tube well	60	60	63
6. Shiva Kumar Shrestha	Private tube well with HP	8	60	30
7. Nirmal shrestha	Private tube well	3	45	15
8. Kailash Nepal	Stone Spout	200	150	220
9. Ram bahadur Shrestha	Private tube well	40	40	45
10. Nanda Raj Gurung	Public tube well	90	45	81
11. Durga Devi Rai	Stone Spout	300	150	120
Total		1085	850	1566
Average		99	77	142

Results of Survey in the Wet Season

	Sources used	**Total time spent collecting water per day**	**Total volume collected per day**	**Storage capacity**
1. Ramesh Karmacharya	Dug well	4	15	20
2. Sanu bhai Pariyar	Dug well	30	30	564
	Private TW	30	30	
3. Prakash Lama	Dug well	200	150	374
4. Dhan Bahadur Thapa	Public TW	90	90	34
5. Sitaram Nayan Magar	Dug well	20	60	63
6. Shiva Kumar Shrestha	Private TW with HP	8	60	30
7. Nirmal shrestha	Private TW	3	45	15
8. Kailash Nepal	Dug well	50	150	220

9. Ram bahadur Shrestha	Private TW	40	40	45
10. Nanda Raj Gurung	Dug well	15	45	81
11. Durga Devi Rai	Private TW	100	150	120
Total		590	865	1566
Average		54	79	142

Summary by Source (based on survey of 11 households)

Source	Category	Dry Season			Wet season		
		% of HH that use	Average minutes per day	Average litres per day	% of HH that use	Average minutes per day	Average litres per day
Private TW	D3	27%	34	48	36%	43	66
Public DW	B4	27%	110	70	54%	53	75
Public TW	B3	18%	90	67	9%	90	90
Stone Spout	A1	18%	250	150	0%	-	-
Private TW with hand pump	D3	9%	8	60	9%	8	60

Summary by Gender (based on survey of 11 households)

Source	Category	Minutes per day in dry season			Minutes per day in wet season		
		Women in 100% of HH	Men in 9% of HH	Children in 9% of HH	Women in 100% of HH	Men in 9% of HH	Children in 9% of HH
Private TW	D3	34	-	-	43	-	-
Public DW	B4	110	-	-	53	-	-
Public TW	B3	90	-	-	90	-	-
Stone Spout	A1	250	-	-	-	-	-
Private TW with hand pump	D3	4	2	2	4	2	2

f) **What are the typical storage facilities?** Tanks, buckets, *gagris*, jerry cans, drums, *dekchsi, batas, Karuwas*, and jars.

f) **Details of any water supply projects / schemes in the settlement:** Two 5000 litre capacity tanks were supplied by the ward.

g) **Satisfaction with existing services:** Not satisfied. They would like to have NWSC water connections and good water flow.

6. **Toilets**

a) Coverage

Total dwellings	99
No. of dwellings with private toilet (any type)	99
No. of dwellings with no toilet	0
Coverage (%)	100%
No. of public toilets	0

b) **Types of household latrine**

Type	Category	No.	Typical cost
Permanent superstructure with lined pit	B1	2	Rs. 6,000 paid for privately
Permanent superstructure connected to unlined pit.	C1	21	Rs. 4,000 paid for privately
Temporary superstructure which empties directly into river.	E3	76	No cost

c) **Defecation practices**

- How widespread is open defecation? No open defecation.
- Do all family members use household latrines? Yes.
- Are any private latrines shared with neighbours? No need.

d) **Details of current or previous sanitation projects?**

No current schemes, but there is plan for improvement in sanitation.

e) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements? Satisfaction is low in households with temporary toilets (77% of households in the community). These toilets are located far enough from the homes to be inconvenient, especially for the sick and elderly. The makeshift walls do not allow significant privacy for women.
- Overall satisfaction: Low.

7. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: When the pit latrines are filled the excrement is used as manure in the kitchen gardens. All the households have kitchen gardens behind their house on the bank of the river. A small canal is dug to pass the household waste water to the kitchen gardens for irrigation. Vegetables are planted and the production is very good. Some families also compost. There is some disposal of solid waste in the river and seventy-six toilets that drain directly into the river. Overall sanitation in the community does not seems bad other than lack of access to drainage.
- Monthly costs: No
- Seasonality of problems: No

8. **Health**

- How does the community perceive their health status? Generally okay.
- Common sicknesses and seasonal variation: Diarrhoea and dysentery in the rainy season.
- Perceptions of causes of sickness: Due to water contamination.

9. **User Aspirations and Willingness to pay**

a) **Problem ranking**

- Among the eleven households interviewed: six indicated lack of a proper toilet as the greatest problem, two indicated the lack of access to water, two the lack of education/awareness and one indicated employment as the biggest problem.

- Other issues arising from discussion: Specific problems identified related to water and sanitation are – the long distance between the latrines and the houses, the general expense and frequent repairs needed for the water pumps.

b) **Water and sanitation improvements**

Water Supply

- What would their preferred facilities look like? The tank is fed using an electric pump. The two machines are kept on almost 24 hours. Due to the extensive use, the machine breaks down often. They would like to receive support for the maintenance of the electric pump. (The community does not seem to have clear idea on the future plan for water and sanitation.)
- How much more would people pay for improved facilities? Unsure.
- What should be the role of each concerned party in making these improvements? Unsure.

Sanitation

- What would their preferred facilities look like? They would like to have a proper open drainage system to drain the household water to kitchen garden. This is the only community where almost all the households have a good size plot of kitchen garden.
- How much more would people pay for improved facilities? Labour and minimal funds.
- What should be the role of each concerned party in making these improvements? Unsure.

Social Map

Sankhamul

Overview Map:

Legend

- Dwelling
- River
- Communal land with private gardens
- Private-owned land (not part of settlement)
- Gas plant
- Bridge
- Temple

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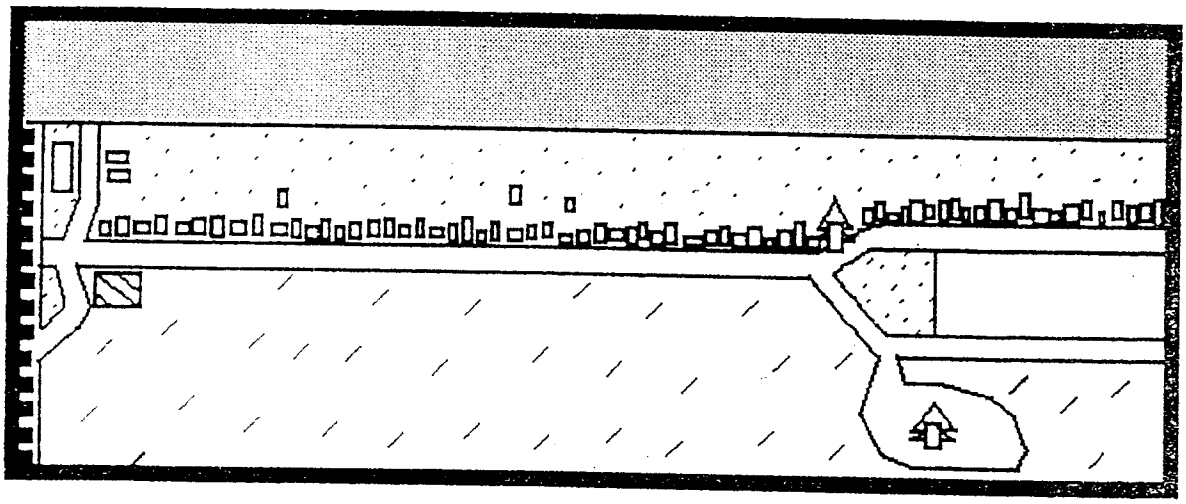
N

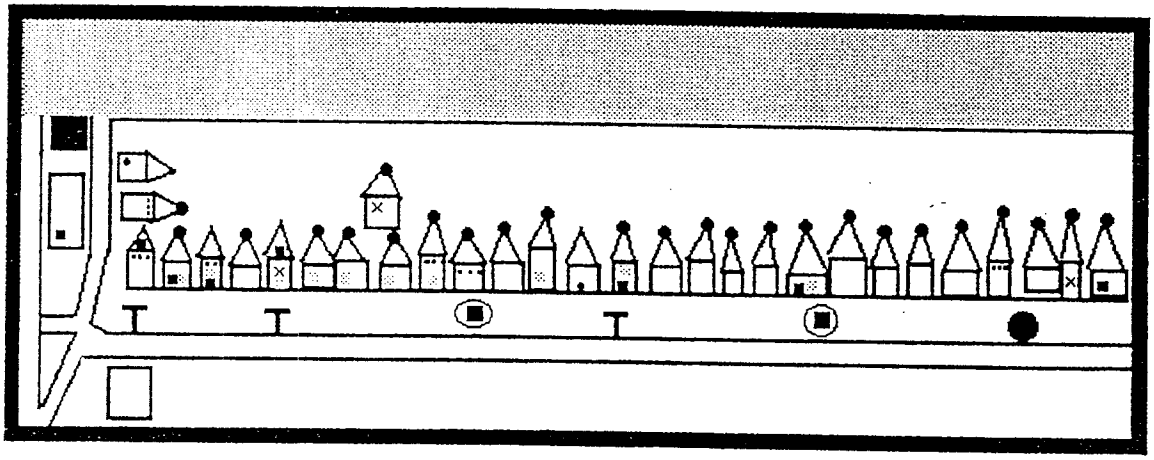


Detailed Map:

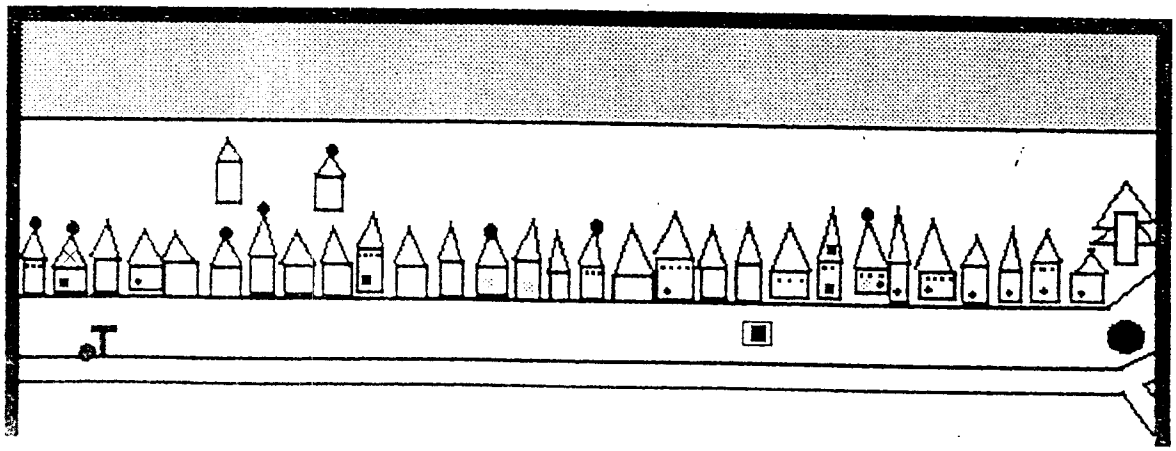
Legend

- Stone water tap
- Store
- No land title
- Rented dwelling
- Handicapped resident
- Member of community's savings group
- Electrical post
- Tube well
- Rower pump (Broken & repairable)
- Rower pumps (Broken, but beyond repair
- Rower pumps
- New rower pumps (built within 2 year)
- Telephone
- Toilet

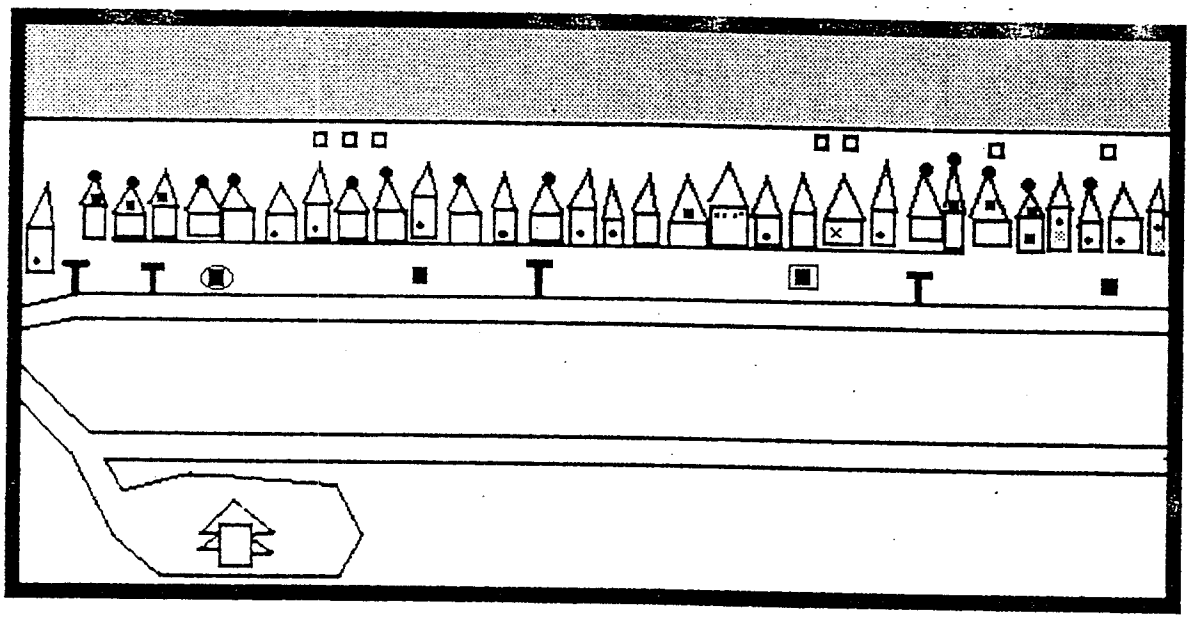
West Side



West-East (Centre)



East Side



Section C:

Middle class, water stressed Communities

Dhalko
Subahal
Dhoka Bahal, Tyodha

PROFILE #12

Name of Community	Dhalko
Type	Middle class, water stressed
Location	Close to the Chhetrapati market
Ward	17
Survey dates	April 16, 2000 or 2057.01.04

Note: Lumanti has no involvement in Dhalko. It was selected for this research because it suffers from an acute water scarcity problem. Households were generally not forthcoming with time and information as there was no guarantee they would benefit from it.

1. **Site Description**

- Overview of infrastructure: The existing public water sources are a few dry public tube wells, and two NWSC taps which deliver minimal water. The infrastructure has been improved a lot in this community with the support from the international organisation, Redd Barna. Drainage and toilets were constructed. The road was paved. A primary school has been constructed. They have access to electricity.
- Housing type and density: The houses are permanent and two or three stories high.

2. **Community Profile**

Number of dwellings : Approx. 150
Number of households : NA
Average household size : NA – large household size
Total population : NA
Any seasonal variation : No

- Social / ethnic composition: This is a low caste (dalit), Newar community. Most households are pode jati (sweeper caste).
- Settlement history: The name of the settlement "Dhalko" comes from "Dhal", literally meaning "drainage".

Nepali year	World year	Event
2033	1976	The first permanent brick house was built on this land. (This is an old community and it is unclear when the first families settled here).
2044	1987	The first NWSC connection was made.
2046	1989	Redd Barna started their work here, greatly improving the standard of living over the next ten years.
2055	1998	Redd Barna closed their project here.

- Typical occupations / income level: Typical occupations are domestic cleaners, road or public spaces cleaner etc. Typical income is Rs. 3,000 to Rs. 5, 000 a month
- CBO's and their activities: Redd Barna helped to form a youth group, which is an established committee and is responsible for many community activities.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Good.
- Perceived security of tenure: Secured, the houses and land belongs to them.
- Access to government services: They have access to (almost dry) NWSC connections, electricity, and telephones.

4. External Support

- Previous or current projects / schemes: Redd Barna worked in Dhalko for about ten years. They constructed a school building and improved drainage, toilets, water supply (private pumps), and paths.

5. Water supply Facilities

a) Sources and uses

Source	Category	No.	Ownership	Uses	Typical no. of users per source	Activities done at the water source itself	Repair responsibility
NWSC private connection	D2	150	Private	All uses	1 HH	Collection	Owner
NWSC public standpost	A2	2	Public	All uses	Very few HH	Collection	Municipality
Private tube well with rower pump	D3	Approx 120	Private	Preferably just for washing and bathing	1 HH	Washing and bathing.	Owner
Communal tube well with rower pump	B3	5	Communal	Preferably just for washing and bathing	30 HH	Washing and bathing	Community

- Why does the community use the sources in this way? Households prefer the NWSC water for drinking however they only run for less than thirty minutes a day. Households are forced to either drink the water from the tube wells or travel outside the community.
- Do they do any routine household treatment of water? NA

b) Accessibility and convenience

- Control of water points; who has access? Everyone has access to public water sources. Some of the private tube wells are shared with neighbours but they are controlled by the owners.

c) Reliability

Source	Category	Hours per day	Seasonal variation
Private NWSC connection	D2	5-10 minutes on alternate days	Yes. Little more water in the wet season.
NWSC public standpost	A2	5-10 minutes on alternate days	Yes. Little more water in the wet season.
Private tube well	D3	24 hrs	No
Communal tube well	B3	24 hrs	No

How do people cope and assist each other in times of shortage? Households get water from outside the community - sources such as: neighbouring taps, relatives houses or the leaking main line about ten minutes walking distance from the community. In the dry season some households buy tanker water. Some households resort to drinking water from tube wells.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
Private NWSC connection	D2	Rs. 10,100	Rs. 240 per month	Rs. 200 annually
Tube well with hand pump	D3	Rs. 10,500	No	Rs. 500 annually
Tube well with rower pump	D3	Rs. 5,000	No	Rs. 500 annually

e) Collection Time and Consumption

Survey Results

	Sources used	Total time spent per day (minutes)	Total volume collected per day (litres)	Storage capacity
1. Chakra Babu Nepali	Private NWSC*	30	10	176
	Private tube well	30	10	
2. Kale Pode	Public standpost outside community	60	60	154
	Private tube well	20	40	
3. Laxmi Pode	PS outside community	60	40	278
	Private tube well	30	20	
4. Ratna Maya Pode	PS outside community	30	30	44
5. Raju Nepali	PS outside community	60	30	72
	Private tube well	30	20	
6. Laxmi Prasad Pode	PS outside community	60	75	1540
7. Bisham Bahadur	Private NWSC*	20	60	54
	Private tube well	40	40	
8. Dil Bahadur Pode	Private NWCS*	20	30	92
9. Ram maya Nepali	Private NWSC*	20	30	18
	Private tube well	50	150	
Total		560	645	888
Average		62	72	111

* on alternate days

Summary by Source (based on survey of nine households)

Source	Category	% of HH that use*	Minutes spent per day*		Litres collected per day*	
			Average	Range	Average	Range
Public standpost (outside community)	A1	55%	54	30-60	47	30-75
Private NWSC connection	D2	44%	22	20-30	32	10-60
Private tube well	D3	66%	33	20-50	47	10-150

Summary by Gender
Women did all the water collection in the households that participated in the survey.

What are the typical storage facilities? Gagri, bucket, tank, or washing pot.

f) **Details of any water supply projects / schemes in the settlement:** None for many years. Water supply is a big problem in this area.

g) **Satisfaction with existing services:** Very low satisfaction.

Toilets

a) **Coverage**

Total dwellings	Approx. 150
No. of dwellings with private toilet (any type)	Approx. 150
No. of dwellings with no toilet	None
Coverage (%)	100%
No. of public toilets	None

b) **Types of household latrine**

Type	Category	No.	Typical cost / subsidy
Permanent superstructure with an underground connection to city sewerage line.	A1	Approx. 150	Rs. 5,000 subsidised by Redd Barna

c) **Defecation practices**

- How widespread is open defecation? It has not been a problem since all households built private toilets.
- Do all family members use household latrines? Yes.
- Are any private latrines shared with neighbours? No need.

h) **Details of current or previous sanitation projects / schemes:** Redd Barna supported the construction of permanent toilets in every household.

d) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements? The toilets are private and convenient.
- Overall satisfaction: Very high.

6. **Solid waste management, drainage, general environmental sanitation**

Summarize current arrangements / services: The Redd Barana helped in laying a 3" pipe line to which all toilets are connected.

- Monthly costs: NA
- Seasonality of problems: NA

7. **Health**

- How do the community perceive their health status? NA
- Common sicknesses and seasonal variation? NA
- Perceptions of causes of sickness? NA

8. **User Aspirations and Willingness to pay**

a) **Problem ranking**

- Why these priorities? NA

b) **Water and sanitation improvements**

Water Supply

- What would their preferred facilities look like? Longer hours of running water at the existing NWSC taps.
- How much more would people pay for improved facilities? NA
- What should be the role of each concerned party in making these improvements? NA

Sanitation

- What would their preferred facilities look like? NA
- How much more would people pay for improved facilities? NA
- What should be the role of each concerned party in making these improvements? NA

PROFILE #13

Name of Community	Subahal
Type	Middle class, water stressed
Location	Located behind Patan Durbar Square and close to the famous Golden stone spout.
Ward	7 / 8
Survey dates	17.04.2000

1. Site Description

- Overview of infrastructure: Almost all households have a NWSC connection which have been dry for over five years. There is only one public water source, which only has a very limited amount of water only during the rainy season. This community is highly stressed for water. All households have permanent toilets. There is a solid waste management system and paved paths. There are electricity connections.
- Housing type and density: The houses in the community are three and four stories high. The old houses are made of brick while the new houses are constructed with cement.

2. Community Profile

Number of households (estimate) : 300
Number of dwellings : 245
Average household size : 5
Total population : 1470
Any seasonal variation : No

- Social / ethnic composition: This is a middle caste, Newar farmer community.
- Settlement history :

Nepali year	World year	Event
-	-	This community is very old. Although no one seems to know exactly estimates are at few hundred years.
2049	1992	The German NGO UDLE began a pilot project in this community greatly improving the quality of life here. They dealt with toilets, general heath, solid waste, cleaning of open spaces, temple improvement etc.

- Typical occupations / income level: Typical occupations are farming, carpentry, metal work and service. Average income levels range between Rs. 3,000 and Rs. 12,000 per month.
- CBO's and their activities: UDLE has helped to create a youth group, a Tole Improvement Committee and children groups. These groups are primarily involved in community cleaning activities.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: Good.
- Perceived security of tenure: Secured since it is an old community.

- Access to government services: They have access to electricity. Although there are many NWSC taps there is no water.

4. External Support

- Previous or current projects: UDLE had worked in Subahal for about eight years. They have been involved with solid waste management, conservation of old buildings, formation of community groups etc. There has been no attention given to the lack of water.

- **Water supply Facilities**

a) Sources and uses

Source	Category	No.	Ownership	Use	Typical No of HH per source	Activities done at source	Repair Responsibility
NWSC public standpost	A2	2	Public	All uses (dry for the last five years)	-	-	TIC
Private NWSC connection	D2	Approx 245	Private	All uses (dry for the last five years)	1 HH	-	Owners
Stone Spout (inside community)	A1	1	Communal	Drinking, washing and bathing.	157 HH in July	Washing and bathing.	TIC
Stone Spout (outside community)	A1	1	Communal	Drinking, washing and bathing	110 HH	Only collection is allowed	TIC – of other community
Dug well	B4	2	Communal	Dry (for the last five years)	-	-	TIC
Dug well	D4	3	Private	Washing and bathing. Some HH drink and cook.	33 HH	Only owners bath. Other HH only collect.	Owners

- Why do the community use the sources in this way? Water from the dug wells comes out yellow and is perceived as unsuitable for drinking.
- Do they do any routine household treatment of water? The following is a result of a survey of eleven households.

Dry Season		Wet Season	
Dug Well	Stone Spout	Dug Well	Stone Spout

• six HH boiling water	• two HH boiling water	• six households using cloth filtration • one HH using a ceramic filter • three HH are boiling	

b) Accessibility and convenience

- Control of water points: who has access? Everyone has access to the stone spout although it is located about thirty minutes away. Only the owners and their neighbours have access to the private dug wells.

c) Reliability

Source	Category	Hours per day	Seasonal variation
Private Dug Well	D4	24 hrs	Yes, less pressure and reliability, and longer lines during dry season.
Public NWSC standpost	A2	Dry	No.
Private NWSC connection	D2	In July there is 15 – 30 min	Yes, for the other eleven months there is no water at all.
Communal dug well	B4	Dry	Insignificant water during July.
Stone Spout	A1	24 hrs in July	Yes, there is no water during the rest of the year.
Stone Spout – outside community	A1	24 hrs	No significant change

- How do people cope and assist each other in times of shortage? Some households hire a labourer who uses either a bicycle or a pushcart to collect water. In one trip they manage about 150 – 200 litres and charge Rs. 10. Others walk to the thirty minutes to the stone spout.

d) Costs

Type of source	Category	Installation costs	Tariff	Repair Costs (annually)
Public NWSC standpost	A2	Rs. 10, 500	None	None because it is not being used.
Private NWSC connection	D2	Rs. 10, 500. Rs. 8,000 is paid as a deposit. Rs. 2,500 is paid for the connection.	Rs. 240 but now fee is not paid due to the tap remaining dry.	Rs. 200
Communal Dug Well	B4	NA	No charge	Rs. 500

Stone Spout	A1	NA	No charge	NA
Private Dug Well	D4	Rs.22,000	No charge	Rs. 500

e) Collection Time and Consumption

Survey Results for the Dry Season

Name	Sources used	Total time spent collecting water per day (min)	Total volume collected per day (litre)	Storage capacity
1. Vidya Maharjan	Dug Well	75	100	168
	Outside Community	120	80	
2.Chit Maharjan	Stone Spout	390	240	493
3. Laxmi Maharjan	SS	240	160	136
4. Sanu Maharjan	OC	180	90	368
5. Asta maya Maharjan	DW	90	60	244
	SS	60	40	
6. Mina Maharjan	DW	45	60	374
	OC	150	100	
7. Mohan Maya Maharjan	DW	45	75	162
	OC	150	125	
8.Nani Maharjan	DW	120	100	396
	SS	180	75	
9. Shova Maharjan	OC	150	125	401
	SS	150	125	
10.Saraswoti Maharjan	DW	15	45	475
	OC	240	160	
11. Bishnu Shakya	OC	300	200	223

Survey Results for the Wet Season

Name	Sources used	Total time spent collecting water per day (min)	Total volume collected per day (litre)	Storage capacity
1. Vidya Marahjan	DW	60	80	168
	OC	60	80	
2. Chit Marahjan	DW	25	48	493
	SS	75	65	
3. Laxmi Maharjan*	DW	40	160	136
4. Sanu Maharjan	DW	20	60	368
	SS	30	60	
5. Asta maya Maharjan*	DW	45	60	244
	SS	30	26	
6. Mina Maharjan	DW	75	100	374
	SS	45	60	

7. Mohan Maya Maharjan	DW	45	75	162
	SS	60	100	
8. Nani Maharjan	DW	45	100	396
	SS	90	60	
9. Shova Maharjan	DW	25	100	401
10. Saraswoti Maharjan*	DW	40	200	475
11. Bishnu Shakya*	OC	50	200	223

*also collecting rain water

Summary by Source (based on survey of eleven households)

Source	Category	Dry Season			Wet Season		
		% of HH who use	Average min per day	Average litre per day	% of HH who use	Average min per day	Average litre per day
Dug Well	D4	54%	53	73	91%	42	98
Stone Spout	A1	45%	204	128	64%	56	59
Sources outside community*	-	64%	184	126	18%	55	140

*relatives taps, other communities public sources etc.

Summary by Gender (based on survey of eleven households)

Source	Category	Minutes per day in dry season			Minutes per day in wet season		
		Women in 91% of HH	Men in 9% of HH	Children in 9% of HH	Women in 91% of HH	Men in 9% of HH	Children in 9% of HH
Dug Well	D4	53	-	-	40	20	5
Stone Spout	A1	174	-	150	43	30	30
Sources outside community*	-	185	180	-	55	-	-

*relatives taps, other communities public sources etc.

What are the typical storage facilities? The typical storage facilities are gagri, bucket, jerry can, plastic container, tin drum.

f) **Details of any water supply projects / schemes in the settlement:** None

g) **Satisfaction with existing services:** Satisfaction is very low. All the NWSC connections are dry. The working water points are few, crowded and affected by a significant seasonal variation. People have to walk early in the morning or during the night to collect water from the stone spout.

1. Toilets

a) Coverage

Total dwellings	245
No. of dwellings with private toilet	243

No. of dwellings with no toilet	None
Coverage (%)	100%
No. of public toilets	None

b) **Types of household latrine**

Type	Category	No.	Typical cost / subsidy
Permanent toilet with underground connection to nearby pond.	D1	245	Rs. 4,000 subsidised by UDLE

c) **Defecation practices**

- How widespread is open defecation? It is not a common problem.
- Do all family members use household latrines? Yes, those few households without private toilets share with neighbours.

d) **Details of current or previous sanitation projects / schemes?** None.

e) **Satisfaction with existing toilet facilities**

- How private and convenient are the present arrangements?
  Private toilets are inside the house and therefore, private and convenient to all.
- Overall satisfaction: People are satisfied with the current toilets.

2. **Solid waste management, drainage, general environmental sanitation**

- Summarize current arrangements / services: Solid waste is regularly collected by the municipality. There is an underground drainage system from each household to the nearby pond where excrement is collected and used for fertilizer.
- Monthly costs: No cost is charged.
- Seasonality of problems: No seasonality problems. At times the collection service is poor.

3. **Health**

- How do the community perceive their health status? Good.
- Common sicknesses and seasonal variation: Diarrhoea, cold.
- Perceptions of causes of sickness: Bad quality of water.

4. **User Aspirations and Willingness to pay**

a) **Problem ranking**

- Water is the main problem in the community.

b) **Water and sanitation improvements**

Water Supply

- What would their preferred facilities look like? Easily accessible water.
- How much more would people pay for improved facilities? Rs. 50 per household.
- What should be the role of each concerned party in making these improvements? Not certain.

Sanitation

- What would their preferred facilities look like? They are satisfied with the current facility provided by the municipality.
- How much more would people pay for improved facilities? -
- What should be the role of each concerned party in making these improvements? -

SUBAHAL


PATAN CONSERVATION AND DEVELOPMENT PROGRAMME
LOCATION OF SOLID WASTE DUMPING AREA & SAGAL
LEGEND
BUILDING
SAGAL
COURTYARD
WELL
HITI
ROAD
WALK WAY
PUBLIC TAP
WASTAGE COLLECTION POINT
SEWERAGE LINE
WATER SUPPLY LINE
WATER TANK
RELIGIOUS BUILDING
PUBLIC LADES TOILET
PATI
SOLID WASTE DUMPING AREA
WASTE CONTAINER
REHABILITED SAGALS.
PRIVATE TOILETS WHO HAVE RECEIVED ECONOMIC AND TECHNICAL SUPPORT FROM PCDP.
RAIN INLET COMPETED.
AREA CLEANED FOR CONSTRUCTION OF PUBLIC TOILET
T-1
T-2
T-4
T-5
T-7
T-8
T-9
T-10
S-1
S-2
S-3
S-4
N
SHEET No.
INTEGRATED PILOT PROJECT IN THE AREA OF SUBAHA HITI AT PATAN, WARD No. 7/8
SHEET No.

PROFILE #14

Name of Community	**Dhoka Bahal, Tyodha**
Type	Middle class, water stressed
Location	Located in the old part of Kathmandu city. Ten minutes walking distance from the old market "Ason Bazaar".
Ward	27, KMC
Survey dates	May 02, 2000 or 2057/01/20

1. Site Description

- Overview of infrastructure: There is one large, paved courtyard and a few smaller ones in this community. Houses surround each. There had access to sewerage line, electricity, private NWSC connections, and telephones. The biggest problem in this community is the shortage of water.
- Housing type and density: All the houses are permanent and three or four stories high.

2. Community Profile

Number of dwellings : 64
No. of households : NA - large household sizes
Total population : NA
Any seasonal variation : No
Average HH size : NA

- Social / ethnic composition: The inhabitants of this community are mixed caste, Newars (Bajracharya, Shrestha, Tuladhar, Manandhar castes). It is an old, lower middle class community.
- Settlement history: NA
- Typical occupations / income level: Generally they are steady job holders and businessmen.
- CBO's and their activities: Lumanti is not involved in this community. The community has formed a TIC and a youth group.

3. Land Tenure and Access to Services

- Relationship with the municipality and other service providers: The relationship is regarded as good.
- Perceived security of tenure: Secured.
- Access to government services: They have access to very limited NWSC water, electricity, telephones and paved roads.

4. External Support

- Previous or current projects / schemes: No specific projects are being planned or implemented.

5. Water supply Facilities

a) Sources and uses

Type of source	Category	No.	Ownership	Uses	Typical no. of users per source	Activities done at source	Repair responsibility
Dug well with Nepali #6 hand pump	A4	1	Community	Cooking, bathing, laundry, toilets, a few HH are drinking	10 HH	Bathing, laundry	TIC
Tube well with rower pump	B3	2	Community	Cooking, bathing, laundry, toilets, a few HH are drinking	10 HH	Bathing, laundry	TIC
Private tube well	D3	About 23	Private	Cooking, bathing, laundry, toilets	3-4 HH	Bathing and laundry for owners only.	Owner
Private NWSC connection	D2	About 50	Private	Drinking, cooking, bathing	2-3 HH	Bathing and laundry for owners only	Owner

- Why do the community use the sources in this way? Almost all the houses have private NWSC connections that only deliver water for one or two hours, less than half the year. This is perceived as the most acceptable water for drinking. When this water runs out, after they have shared with neighbours, they must go to other sources. Sometimes the water from the community wells are used for drinking even though it is considered unclean.

b) Treatment practices

Results from survey of sixteen households:

Method	Private tube well	Private NWSC connection	Community tube well/ dug well
None	3	7	4
Cloth over tap	-	3	-
Traditional Filter	-	15	3
Boiling	-	6	1

c) Accessibility and convenience

- Control of water point; who has access? Everyone has access to the community wells, which are controlled by the TIC. The private sources are controlled by their owners but shared with their neighbours (who have limited access).

d) Reliability

Source	Category	Hours per day	Seasonal variation
Community tube well	B3	24 hrs	No.
Community dug well	A4	24 hrs	Yes. More consistent during rainy seasons.
Private tube well	D3	24 hrs	No.
Private NWSC connection	D2	1-2 hrs in wet season	Yes. No supply in the dry season.

- How do people cope and assist each other in times of shortage? During the crisis, people have collected water by following ways:

- Buying tanker water, 10 000 litres for Rs. 800.
- Collecting water from neighbour's house / neighbouring community
- Some bring water from their work place.
- Hiring labourer to collect water from outside community on bicycle.

e) Costs

Type of source	Category	Installation costs	Tariff	Repair costs
Community dug well	A4	Old. NA	None	Rs. 1,000 annually
Private/community tube well	D3/B3	Rs. 3,000	None	Rs. 50-100 every two months
Private NWSC connection	D2	NA	None	NA. Very little since it is rarely used.

f) Collection Time and Consumption

Survey Results

	Sources used	Total time spent collecting water per day (min)	Total volume collected per day (litre)	Storage capacity (litre)
1. Gun Bajra Bajracharya	Community DW	30	30	76
	Neighbour's NWSC	40	60	
1. Gun Kaji Bajracharya	Community DW	50	25	803
	Neighbour's NWSC	120	80	
3. Laxmi Manandhar	Community DW	15	15	70
	Neighbour's NWSC	60	40	
4. Laxmi Ranjit	Community DW	45	15	535
	Neighbour's NWSC	30	5	
5. Rabi Manandhar	Community DW	30	40	526
	Neighbour's NWSC	90	60	
6. Govinda Man Shrestha	Community DW	40	20	165
	Neighbour's NWSC	20	60	
7. Pragya Devi Bajracharya	Community DW	20	40	174
	Neighbour's NWSC	30	5	
8. Dharma Jee Malla	Community DW	60	120	535
	Neighbour's NWSC	120	80	
9. Sabak Muni Bajracharya	Private NWSC	30	80	162
10. Gyan Ratna Maharjan	Community DW	30	40	168
	Neighbour's NWSC	30	80	
11. Bir Bajra Bajracharya	Community DW	30	30	133
	Neighbour's NWSC	60	30	
12. Yaso Kumari Tualthar	Community DW	75	45	546
13. Radha Krishna Shrestha	Community DW	60	240	97.5
14. Laxmi Ranjitkar	Community DW	75	50	86
	Neighbour's NWSC	60	40	
15. Uta Raj Shilakar	Private tube well	25	50	133
	Neighbour's NWSC	25	25	
16. Laxmi Raj Shilakar	Community DW	95	28	124
	Neighbour's NWSC	30	14	
Total		1465	1437	4257.5
Average		92	90	266

Summary by Source (based on survey of sixteen households)

Source	Category	% of HH that use	Minutes spent per day		Litres collected per day	
			average	range	average	range
Community dug well	A4	87%	47	15 – 95	53	15 – 240
Neighbour's NWSC connection	D2	69%	62	25 – 120	38	5 – 80
Private NWSC connection	D2	19%	27	20 – 30	73	60 - 80
Private tube well	D3	6%	25	-	50	-

Summary by Gender (based on survey of sixteen households)

Source	Category	% of HH with women collecting	% of HH with men collecting	% of HH with children collecting
Community dug well	A4	87%	12%	12%
Neighbour's NWSC tap	D2	69%	None	None
Private NWSC tap	D2	19%	None	None
Private tube well	D3	6%	None	None

- What are the typical storage facilities? Ceramic containers, gagris, jerry cans, buckets, and tanks.

g) **Details of any water supply projects / schemes in the settlement:** The community has complained to the NWSC about the shortage of water. They have made a request to the ward for a 4" instead of 2" supply line connection.

h) **Satisfaction with existing services:** Low satisfaction with the existing services. Neighbours are reluctant to share tap. Households, and primarily women, are having to spend a lot of money and time for water collection, which interferes with their other work. They are upset about having to pay a fee to the NWSC even there is such a small supply of water.

6. Toilets

a) Coverage

Total dwellings	64
No. of dwellings with private toilet	64
No. of dwellings with no toilet	0
Coverage (%)	100%
No. of public toilets	None

b) Types of household latrine

Type	Category	No.	Typical cost
Permanent superstructure with an underground connection to the city sewerage line.	A1	64	Rs. 5,000-15,000

c) Defecation practices

- How widespread is open defecation? This is not a problem.
- Do all family members use household latrines? Yes.
- Are any private latrines shared with neighbours? No need.

d) Details of current or previous sanitation projects / schemes (subsidies?)

- None

e) Satisfaction with existing toilet facilities

- How private and convenient are the present arrangements? The community is generally satisfied with the system.
- Overall satisfaction: High.

7. Solid waste management, drainage, general environmental sanitation

- Summarize current arrangements / services: All households have a line connecting toilets to the main sewerage system. The households dispose of waste in a bag, in a corner of the courtyard. The community has hired a worker who regularly comes and cleans the courtyard, who also brings the waste bags to the municipal waste container.
- Monthly costs: The sweeper is paid Rs. 50 per month per courtyard. The TIC collects Rs. 5 per household per month to pay the sweeper. There is an additional fee to organizers of private celebrations or religious festivals, held in the courtyard, to clear the drain.
- Seasonality of problems: None. During Dashain, the great Hindu festival, each household pays extra money for sweeper.

8. Health

- How do the community perceive their health status? Good.
- Common sicknesses and seasonal variation? NA
- Perceptions of causes of sickness? NA

9. User Aspirations and Willingness to pay

a) Problem ranking:

1. Shortage of drinking water is regarded as the most important problem in the community.

(Since Lumanti is not involved in this community and this is a middle class community, we did not go into other problems.)

b) Water and sanitation improvements

Water Supply

- What would their preferred facilities look like? Regular availability of drinking water.
- How much more would people pay for improved facilities? They showed interest in paying Rs. 50 in addition to what they are paying now.
- What should be the role of each concerned party in making these improvements? Not clear.

Sanitation

- What would their preferred facilities look like? Community is happy with existing services.
- How much more would people pay for improved facilities? -
- What should be the role of each concerned party in making these improvements? -

TYAUDA

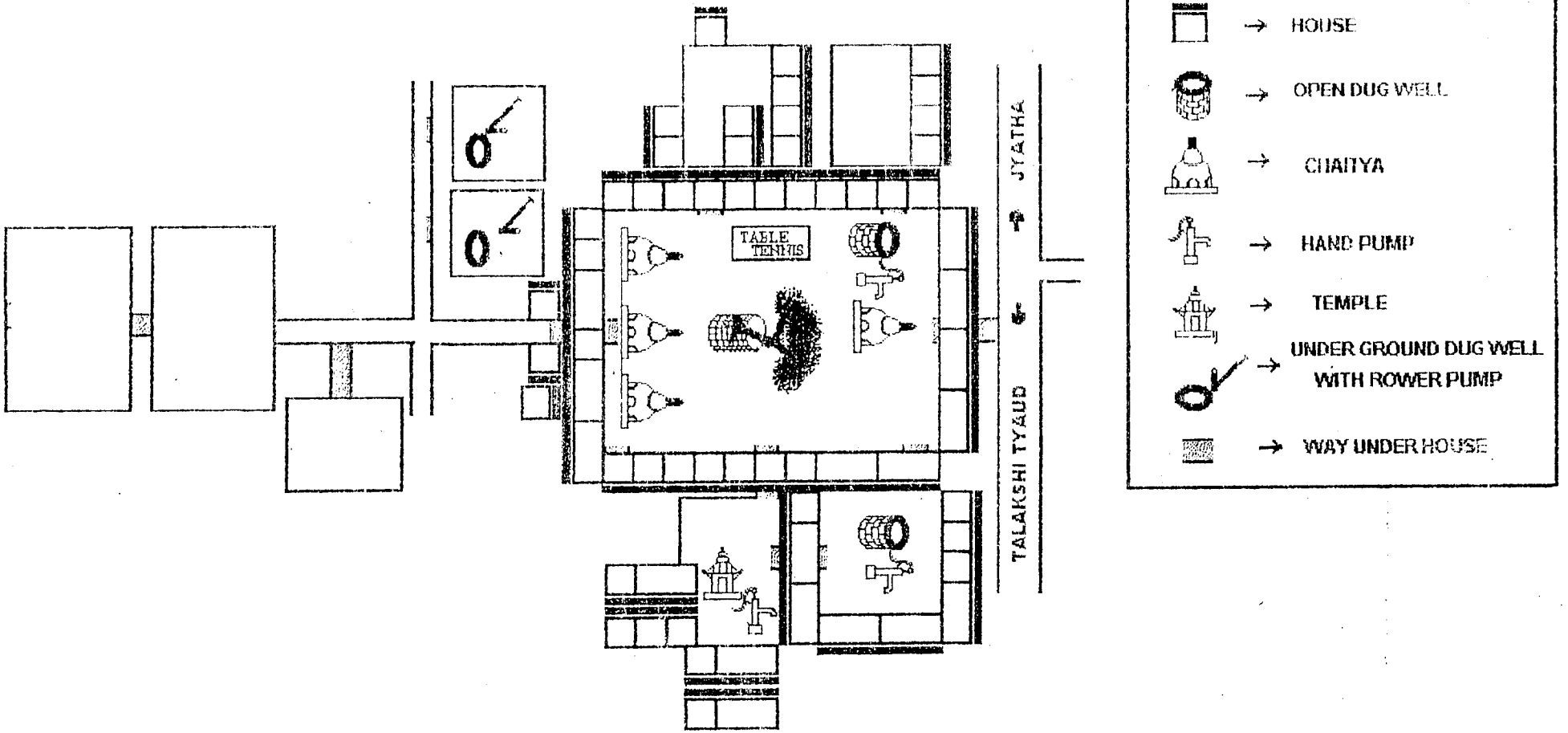


TABLE TENNIS
JYATHA
TALAKSHI TYAUD
LEGEND
HOUSE
OPEN DUG WELL
CHAITYA
HAND PUMP
TEMPLE
UNDER GROUND DUG WELL WITH ROWER PUMP
WAY UNDER HOUSE

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