

Money Down the Pan?

**COMMUNITY LEVEL MODELS FOR
FINANCING SANITATION IN RURAL NEPAL: A SECTOR REVIEW**

Laia Domenech Pretus, Oliver Jones, Laxmi Sharma and Rajani K.C. Shrestha

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Preface

Sanitation is often given low priority at the international, state, and local levels. In addition to financial neglect, sanitation receives little institutional or legislative focus, and is often not given its own government department or national policy or program. Nepalese sanitation coverage targets are ambitious, particularly the national goal to achieve 100% sanitation coverage by 2017. In addition, Nepal needs to reach 53% coverage by 2015 to meet the Millennium Development Goal on sanitation. Numerous sanitation programs are launched in Nepal every year with common aspirations, but also different implementation modalities. This sometimes results in overlap and inefficient distribution of available resources. The most recent policy regulating sanitation activities is the 2004 Rural Water Supply and Sanitation National Policy. Sector figures show significant disparities in sanitation service delivery, particularly between rich and poor and rural and urban areas. Access to improved sanitation among the richest quintile is about 79%, while access among the poorest quintile is 10% (UNICEF 2006).

Approaches to sanitation are diverse and multidimensional; however one of the critical areas where the widest range of approaches is being adopted and little is currently known in Nepal is financing sanitation at the community level. Allocation of available and scarce resources is crucial to moving toward national and international sanitation targets most efficiently. However, financing also has impacts on equity and sustainability issues, which are also essential in achieving sanitation targets, and ultimately achieving 100% coverage across Nepal. Thus, this study aims to bring some clarity to the main features, achievements, and challenges of the most popular approaches in Nepal.

This publication, jointly undertaken by the Asian Development Bank (ADB) and WaterAid, is timely in view of 2008 being declared the International Year of Sanitation. Available documents were reviewed, relevant information updated, and consultations with relevant stakeholders conducted while undertaking the study and preparing this publication.

On behalf of ADB and WaterAid, we express our thanks to the individuals and institutions who have contributed to this research, as well as provided access to project sites and support with logistics: Suman Sharma of the Ministry of Physical Planning and Works, Nawal Kishor Mishra and Khom Subedi of Department for Water Supply and Sewerage, Larry Robertson and Nameste Lal Shrestha of United Nations Children's Fund (UNICEF), Han Heijnen of World Health Organization, Bhupendra Aryal and Maheshwar Prasad Yadav of the Rural Water Supply and Sanitation Fund Development Board Program (RWSSFDBP), Kishore Shakya and Bikesh Shrestha of the Community Based Water Supply and Sanitation Project, Kari Leminen and Kalawati Pokharel of the Rural Village Water Resources Management Project, Muriel Mac-Seing and Pawan Bahadur Karki of Centre for International Studies and Cooperation (CECI), Laxmi Paudyal and Kumar Silwal of Nepal Water for Health (NEWAH), Ram Risal and Ramesh Bohara of Helvetas, Nabin Pradhan of Plan International, Captain Bakta Rai of the Gurkha Welfare Scheme, Nirmala Sharma of Care Nepal, Rishi Adhikari of Rural Reconstruction Nepal, and Mukti Pokharel of the Nepal Red Cross Society. We are also indebted to all those people who kindly supported us during fieldwork, and to local government bodies and local communities who provided very valuable information. The research aimed to capture the views of as many stakeholders in the sanitation sector as possible and in doing so

create a sense of joint ownership on the findings and future direction in this important area, so your contributions are hugely appreciated and valued.

The study would not have been possible without its anchor persons. We thank Laia Domènech Pretus for leading the research team, developing the methodology, coordinating with the numerous sector bodies, and for the considerable work she put into producing the final report. In addition, we recognize the efforts of the research team-Noki Tamang, Nirmal Kumar Raut, and Rajani K.C. Shrestha-for their time in collecting and analyzing the data used in this study. We also very much acknowledge the technical support and guidance of the research advisory team: Oliver Cummings, Rabin Lal Shrestha, Guna Raj Shrestha, and James Wicken. Finally, we thank the managers of this research project, Oliver Jones and Laxmi Sharma, who coordinated and provided inputs at every stage of the research process.

This publication serves to demonstrate the strong commitment of ADB and WaterAid to improving overall sanitation coverage in Nepal. We hope that this publication will be used widely within and beyond Nepal.



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Abbreviations

ADB	Asian Development Bank
ASHA	Accessing Services for Households - Care supported program
CBWSSSP	Community Based Water Supply and Sanitation Sector Project
CECI	Canadian Centre for International Studies and Cooperation
CHV	community health volunteer
CLBSA	Community Led Basic Sanitation for All
CLTS	Community Led Total Sanitation
DACAW	Decentralised Action for Children and Women
DDC	district development committee
DFID	Department for International Development
DWSS	Department of Water Supply and Sewerage
DWSSCC	district water supply and sanitation coordination committee
FCN	Friendship Clinic Nepal
FINNIDA	Finnish International Development Agency (now Embassy of Finland)
GWS	Gurkha Welfare Scheme
IDS	International Development Society
IEC	information, education, and communication
IPRA	Ignition Participatory Rural Appraisal
JRCS	Japanese Red Cross Society
LGB	local government body
MCA	multi-criteria analysis
NDHS	Nepal Demographic and Health Survey
NEWAH	Nepal Water for Health
NGO	nongovernment organization
MDG	Millennium Development Goal
NRCS	Nepal Red Cross Society
ODF	open defecation free
PAF	Poverty Alleviation Fund
PRA	Participatory Rural appraisal
RRN	Rural Reconstruction Nepal
RWSSSP	Finnish Government supported Rural Water Supply and Sanitation Support Program
RWSSFDBP	Rural Water Supply and Sanitation Fund Development Board Program
SACOSAN	South Asian Conference on Sanitation
SLTS	School Led Total Sanitation
SRLF	sanitation revolving loan fund
SSHE	School Sanitation Health Education
UNICEF	United Nations Children's Fund
VDC	village development committee
WATSAN	Water and Sanitation Program
WAN	WaterAid Nepal
WESP	Water and Environmental Sanitation Program
WHO	World Health Organization
WHS	Water, Health and Sanitation
WB	World Bank

Note: In this publication, “\$” refers to US dollars.

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1. Introduction

1.1. Background

Sanitation is often given low priority at the international, state, and local levels. From 1990 to 2000, the total investment in water supply in Africa, Asia, Latin America, and the Caribbean was estimated at \$12.6 billion per year, whereas the estimate for sanitation was only \$3.1 billion per year (WHO and UNICEF 2004). In addition to financial neglect, sanitation receives little institutional or legislative focus, with it often not being given its own government department or national policy or program. The perceived benefits of sanitation are thought to provide a low return on investment compared to water projects, even though sector figures indicate otherwise (Paterson et al 2007). Countries with low sanitation coverage have high health expenses because of lack of proper hygiene and sanitation practices; there are also other social and economic impacts. Diarrheal diseases cause 1.8 million deaths every year, 90% of them being in children under 5 years. In most cases, the diarrheal episodes are attributed to unsafe water and inadequate sanitation and hygiene practices (WHO 2004).

In South Asia, more than half of the population has no access to improved sanitation, and coverage is least in rural areas. Estimates from 2002 indicate that South Asia is not on track to meet the Millennium

Development Goal (MDG) for sanitation (WHO and UNICEF 2004). The present challenge for the region involves increasing sanitation coverage to 60% by 2015 to meet the MDG. In an attempt to address the low sanitation coverage in the region, the first South Asian Conference on Sanitation (SACOSAN) was held in Dhaka in 2003. The regional event concluded with the Dhaka Declaration on Sanitation, in which governments committed to exert additional efforts to advance sanitation and hygiene practices in their respective countries through people-centered, community-led, gender-sensitive, demand-driven approaches. In 2006, SACOSAN II was held in Pakistan, where all participating governments reaffirmed their commitment and political will to accelerate sanitation progress in their respective countries.

Nepalese sanitation coverage targets are ambitious, particularly the national goal of aiming to achieve 100% sanitation coverage by 2017. In addition, Nepal needs to reach 53% sanitation coverage by 2015 to meet the MDG on sanitation. Every year in Nepal numerous sanitation programs are launched with common aspirations but with different implementation models, which sometimes results in overlap and inefficient distribution of the limited resources available. The most recent policy regulating sanitation activities is the 2004 Rural Water Supply and Sanitation National Policy. After the

first SACOSAN conference, attempts were made to update the Nepalese National Sanitation Policy from 1994. However, the draft of the new national hygiene and sanitation policy failed to be approved in 2004. Through the endorsement of the Dhaka Declaration, the Government of Nepal also committed to the development of a sanitation master plan aimed at guiding a national sanitation program and establishing the main principles to be followed by the organizations delivering sanitation services in the Nepalese context; however this is yet to materialize.

Sector figures show significant disparities in sanitation service delivery, particularly between the poor and the rich and in the rural and urban context. Access to improved sanitation among the richest quintile is about 79%, while access among the poorest quintile is nearly eight times lower, with only 10% of the poorest households having access to improved sanitation (UNICEF 2006). The gap between the rural and the urban areas is also noteworthy, with access to improved sanitation in urban areas (36.9%) almost double that of rural areas (19.8%) Nepal Demographic and Health Survey (NDHS 2006). In view of both the low sanitation figures in rural Nepal and the fact that 88% of Nepalese people reside in rural areas, achieving total sanitation in rural Nepal in the near future will be a very challenging task.

1.2. Aims and Objectives

Approaches to sanitation are diverse and multidimensional. One of the critical areas where it is perceived that the widest range of approaches is being adopted and where little is currently known across the sector in Nepal is financing sanitation at the community level. For example, some programs give high hardware subsidies while others rely exclusively on strong community mobilization and awareness building of the importance of sanitation. Financial models obviously have an impact on the cost of delivering sanitation, although the effectiveness of the approach is not necessarily linked to the level of investment. Allocation of available and scarce resources is crucial to moving toward national and international sanitation targets most efficiently. However, financing also has an impact on equity and sustainability issues, which are also essential in achieving sanitation targets, and ultimately achieving 100% coverage across Nepal.

This study aims to bring some clarity to the main features, achievements, and challenges of the most popular approaches in Nepal. In addition, the study

aspires to become a reference for future sector coordinating efforts by evaluating the strengths and weakness of the individual and collective approaches of the sector. This research is basically centered on the sources and means of financing sanitation at the community level, and, therefore, the following aspects are given special consideration.

- How much funding is being provided and by whom.
- Mechanisms by which the available funds are allocated and distributed in communities and ultimately are turned into sanitation outcomes.

Other specific objectives of this research are to

- deepen the understanding of various approaches to the financing of sanitation in rural communities of Nepal;
- compare the effectiveness of the main community financing models, especially in terms of ensuring sustainable services to the very poor and marginalized groups;
- identify the main challenges and barriers created by the high diversity of models; and
- make recommendations on national sanitation policy based on the research findings.

1.3. Methodology and Limitations

The main approaches to financing sanitation were evaluated through the review of policies and guidelines elaborated by main sector agencies, and assessment of various case studies, including projects in both the tarai and hills. Evaluation of every case study consisted of (i) key informant interviews with funding agencies, national and local nongovernment organizations (NGOs), government bodies, and members of the users' committees; (ii) group discussion with community people; (iii) household interviews; (iv) interviews with children; and (v) community observations. Most key sector stakeholders-including national and local government bodies; international development agencies; international, national, and local NGOs; and community people-were consulted during this study. Seven districts of Nepal were visited between March and November 2007 to collect data from the field. The projects were selected with regard to the representation of the main models and main agencies of the sector. Further details of the revised case studies can be found in Table 1.

Three dimensions were considered in evaluating every financial model; every project was evaluated from the economic, social, and sustainable total

TABLE 1. LIST OF PROJECT SITES VISITED

DISTRICT	DATE	MAIN DONOR	MAIN IMPLEMENTING AGENCY	PROGRAM	MODALITY ¹	LOCATION
Pyuthan	March 2007	ADB	DWSS/DDC	CBWSSSP	Subsidy + R.Loan	Khalanga
		ADB	DWSS/DDC	CBWSSSP	Subsidy + R.Loan	Khaira - 7
		WB	RWSSFDBP	RWSSFDBP	Revolving Loan	Khaira - 1
		WB	RWSSFDBP	RWSSFDBP	Revolving Loan	Vijay Nagar, Kuwapani
		DFID	NEWAH	WHS Rural Hill	Graded subsidy	Marantha VDC, Saribang
		DFID	NEWAH	WHS Rural Hill	Graded subsidy	Dakhaquadi VDC
		Care	Care	ASHA Project	Hardware subsidy	Indriya Danda, Bijuwar
Chitwan	August 2007	JRCS	NRCS	IFP	SSHE	GunjaNagar - 4, Bhimanagar
		WB	RWSSFDBP	RWSSFDBP	Revolving Loan	Jutepani - 1, Nayatole
		DFID	GWS	RWSP	Stepwise approach	Birendranagar - 9, Rasauli
		WHO	DWSS	SLTS promotion	SLTS	Jagatpur-2
		WAN	NEWAH/FCN	WHS Rural Terai	Graded subsidy	Sajhapur-4, Meghauri
Tanahun	Aug / Sept 2007	Helvetas	Helvetas	WARM-P	Graded subsidy	Ghansikuwa-5
		UNICEF	NRCS	DACAW	SLTS	Vyas Municipality -6, Shera
		FINNIDA	DDC	RWSSSP	Reward	Vyas Municipality - 6, Shera
Kailali	October 2007	Care	Faya	WATSAN Program	Hardware subsidy up to pan level	Vijay Nagar, Tikapur-8
Surkhet	October 2007	CECI	UKP	Sahakarya	Hardware subsidy up to pan level	Ramghat-8
		Oxfam	RRN	PHABLES	Minimum subsidy	Meheli, Garpan-2
Banke	October 2007	Plan	IDS	WESP	CLTS	Shumshergunj-6
Kapilbastu	November 2007	ADB	DWSS/DDC	CBWSSSP	Subsidy + R.Loan	Bhaglapur, Kopawa 9
		ADB	DWSS/DDC	CBWSSSP	Subsidy + R.Loan	Banskhaur - 9, Gaura

sanitation perspective. A multi-criteria analysis (MCA) was selected as a suitable tool to integrate the data belonging to these three dimensions, and analyze the many elements that make up the financing model and the impact these have on achieving sanitation outcomes¹. In this study, a number of alternatives being implemented by different organizations have been reviewed; however, seven financing models were selected² and have been included in the multi-criteria framework, with each model being evaluated against various predefined criteria. The criteria might be partially contradictory, which means that one alternative can be the best under one criterion but not necessarily the best under the rest of the criteria. The overall preferences among the alternative options are determined by the application of an MCA model, which are numerous. In this study, the Novel Approach to Imprecise Assessment and Decision Environments (JRC 1996) was selected as the

appropriate multi-criteria model to compare the different financial models being studied. The program enables the management of a mixture of information (qualitative and quantitative), the establishment of indifference and preference thresholds, and establishment of the degree of compensation in the criteria aggregation (Gamboa 2005). An explicit relative weighting of the different alternatives is obtained at the end of the MCA.

The main limitations found during the development of this research are summarized below.

- There were difficulties in differentiating between water supply and sanitation investment in water and sanitation integrated projects.
- Out of 75 districts, the study was only able to visit sanitation projects in seven districts because of time and resource restrictions. Although these districts were selected to give a representative insight into different geographical and cultural

¹ Only seven of the mentioned modalities are analysed in the MCA

² These seven modalities broadly represent all the financial modalities for financing sanitation being implemented in Nepal at present

contexts, we realize that not every scenario in the Nepalese context was reviewed.

- Frequently different agencies implement multiple projects in one location over a period of time. Although this gave some interesting insights into the effects of multiple approaches being implemented in one area, it was more complicated to identify the impact of a single model under review. During the fieldwork the team also found instances where two organizations were simultaneously working in the same project area, which could have also led to misinterpretation.
- It is acknowledged that the level of success of an individual model may vary depending on the location, socioeconomic status, cultural traditions, and other contextual factors.
- This study does not try to look at the total cost of implementing sanitation programs; instead it focuses on the allocation and distribution of resources at the community level. We have therefore not looked at the administrative costs of designing and implementing sanitation programs, which would vary depending on the scale and type of organization implementing the program.
- Splitting the total hardware and software costs consistently for each organizational approach is a significant challenge. To increase consistency we only included the cost of staff employed at a community level, not of staff of the implementing organization. This does mean that the total cost of approaches that employ more community-based staff, rather than using external people, might appear higher.
- Hardware costs are always site and context specific; therefore, although in parts of our analysis we have had to use average costs based on the information gathered in projects reviewed, these need to be treated with caution.
- The estimation of community contribution does not include time and labor contributed by the benefited households.
- A certain degree of uncertainty has been considered for the qualitative criteria, as its determination is somewhat relative under MCA.

2. Key Players in the Sanitation Sector

2.1. Sector stakeholders

It is important to understand the dynamics of the sanitation sector in Nepal, as a large number of stakeholders are involved in sanitation and hygiene promotion activities. Partnerships and bilateral relationships among funding agencies; government agencies; and international, national, and local NGOs are diverse, with some organizations implementing programs unilaterally and others working in a wide range of partnerships and cooperative and contractual relationships. This means that financial support for sanitation flows through a number of different channels, both within and outside of official government budget lines.

The Department of Water Supply and Sewerage (DWSS) under the Ministry of Physical Planning and Works is the main government agency responsible for delivering water supply and sanitation services. Other concerned ministries playing roles include Local Development, Health and Population, Education and Sports, and Women Children and Social Welfare.

The two largest programs of the sector, both initiated in 2004, are run by autonomous governmental institutions with the support of international development banks. The World Bank is currently supporting the second Rural Water Supply and Sanitation Fund Development Board Program

(RWSSFDBP-II) and the Asian Development Bank (ADB) is supporting the Community-Based Water Supply and Sanitation Sector Project (CBWSSSP). International development agencies (such as Helvetas, the Government of Finland [formerly as FINNIDA], the United Nations Children's Fund [UNICEF], and the World Health Organization [WHO]) and international NGOs (such as Care, Plan, the Centre for International Studies and Cooperation [CECI] and WaterAid) are also supporting the sanitation sector in Nepal.

In an attempt to coordinate sector stakeholders and promote hygiene and sanitation activities, a Steering Committee for National Sanitation Action, chaired by the director general of DWSS, was formed at the central level in 2000. At the district level and according to current policy, a district water supply and sanitation coordination committee (DWSSCC), chaired by the local development officer, should be formed to coordinate concerned stakeholders and prepare an action plan for the district. The reality is that the DWSSCC is only functional in a few districts where external support and incentives have been put in place.

As per the last sector policy, responsibility is bestowed on local government bodies and local communities to play a growing role in sanitation programs. The Rural Water Supply and Sanitation Sector Policy 2004 states that "consumers groups

and community organizations will be made responsible to provide water supply and sanitation services effectively by designating proper work to the local bodies as per the decentralization policy" and that "GoN [the Government of Nepal] and local bodies will play the role of regulating, monitoring and facilitating the implementation of projects." However, the field reality shows that donor agencies and international, national, and local NGOs are the primary designers and implementers of sanitation programs. Users' committees and community members also play an active role, and community contribution is increasingly demanded through the approaches being implemented. However, the role that local bodies play in coordinating, implementing, and monitoring activities is still very weak in many districts, which is partially a result of the continued absence of elected officials at the local level. The conflict which has agitated the country since 1996 has also made it increasingly difficult to build and retain capacity at the district level and below.

2.2. Geographic Distribution of Agencies and Sanitation Programs in Rural Nepal

The geographic distribution of agencies and sanitation programs shows how external assistance is not necessarily higher in the districts with the least sanitation. While many agencies are working in certain districts (increasing the chance of program overlap), none or very few organizations are working in other areas (Figure 1). Although sanitation coverage, remoteness, and conflict are likely to partially determine the distribution of sanitation programs, sector investments clearly do not necessarily represent those areas most in need of support. Moreover, the significant trend toward integrated water and sanitation programs also raises the question of whether districts and communities are selected for their lack of water or lack of sanitation coverage.

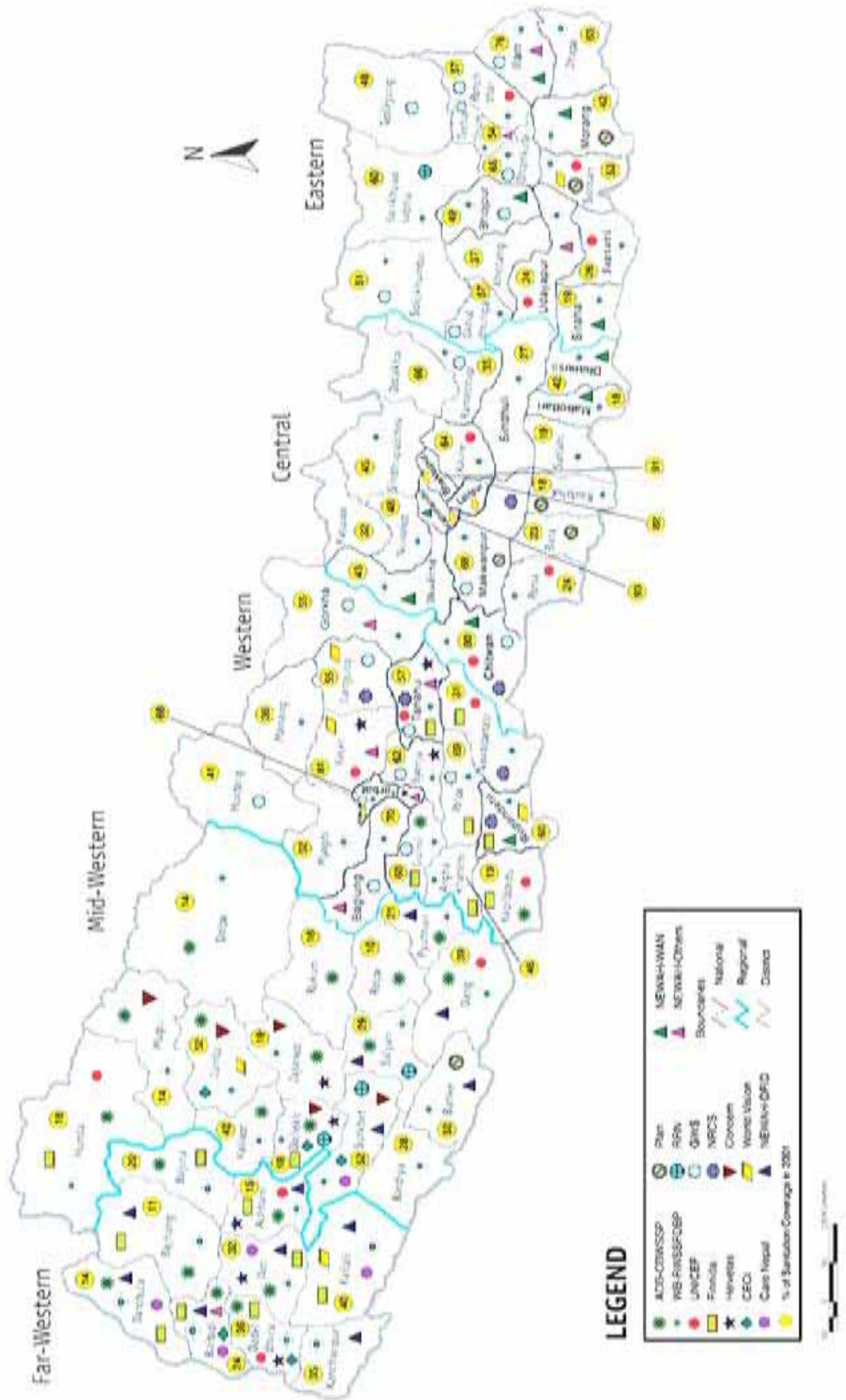
Surprisingly, in the district with the lowest sanitation coverage in Nepal, which is Rolpa with 10% sanitation coverage as per 2001 data, only one program—the CBWSSSP—has been implemented since 2005. In this case, conflict is likely to have discouraged national

and international organizations from supporting this area. In the tarai area of the Central Development Region and a few districts of the Midwest Development Region, there are also remarkably few agencies working. Fifteen districts in Nepal have sanitation coverage below 20%, and seven of these districts are in the Midwest Development Region. Many agencies are actually working in that region, but not necessarily targeting the districts most in need. Five or six agencies are working simultaneously in Surkhet and Jumla (districts with more than 50% sanitation coverage), while only one or two agencies are promoting sanitation in the districts with the lowest sanitation coverage. Similarly, out of the 15 districts with sanitation coverage below 20%, five are in the tarai and the external assistance they are receiving is also limited. Three agencies are working in Kapilbastu, but in the remaining four districts only one or two agencies are supporting sanitation activities.

It is recognized that, because of the diverse size of different sanitation programs, the number of agencies working in a district does not always represent the level of resources deployed, as one large program in one district could allocate more resources than 10 small ones in another district. Despite this, the number of agencies working in different areas provides a good indication of the allocation of resources—both financial and human—focused on increasing sanitation coverage across Nepal. The lack of systematic planning and guidance at the central and local levels was felt to be behind the uneven spread of programs and therefore the unequal distribution of available resources in areas most in need.

It became clear from discussions with sector participants that some agencies prefer to work in accessible areas. In an attempt to distribute Chitwan district (a relatively accessible district) among the concerned agencies working in the area, the preference of most agencies to work in accessible areas became obvious. Due to the lack of interest of most agencies to work in hilly village development committees (VDCs), the DWSSCC is considering introducing incentives to promote sanitation in the hilly VDCs of the district.

FIGURE 1. Water and Sanitation Sector Agencies and Sanitation Coverage in Nepal (2005–2007)



3. Overview of the Main Approaches to Financing Sanitation in Rural Nepal

3.1. Learning from the Past

Several agencies have long-term experience in the sanitation sector. Many programs are running in

their second or latest phases and, over the years they have redesigned their approach according to the lessons learned. Some of the main learning and best practices are summarised below:

TABLE 2. SECTOR PROGRAMS MAIN LEARNING AND BEST PRACTICE

PREVIOUS PROGRAM AND KEY LEARNING	LATEST PROGRAM AND IMPROVEMENTS
<p>RWSSFDB-I (1996-2003) Development Region: West, Central and East</p> <ul style="list-style-type: none"> ■ Direct pit latrines were promoted with SRLF but they were found unhygienic and not sustainable in the long term. ■ Inclusion of poor households was limited. ■ SRLF between NRs700 and NRs1,100 per household. 	<p>RWSSFDBP-II (2004-2009) Development Region: Midwest and Far West</p> <ul style="list-style-type: none"> ■ Promotion of ventilated improved pit latrines. ■ Priority is given to poor households. ■ Provision to subsidize the poorest households. ■ SRLF of NRs2,000 per household. ■ Introduction of post-implementation phase
<p>ADB: Fourth Rural Water Supply and Sanitation Sector Project</p> <ul style="list-style-type: none"> ■ Need for community-based approach including capacity building and empowerment. ■ Interventions in the sector need to be well coordinated and complementary to each other. ■ Clear mechanisms for substantive but equitable community contribution should be developed. ■ Sufficient time needs to be dedicated to social mobilization activities. ■ Sanitation development should be an integral part of rural water supply projects. ■ A prominent component for strengthening executing and implementing agencies' monitoring systems is needed. 	<p>ADB: Community-Based Water Supply and Sanitation Sector Project</p> <ul style="list-style-type: none"> ■ The rural component of the project includes a key activity- Community Mobilization and Capacity Building for Sustainability. ■ Establishment of Sector Stakeholder Group and District Water Supply and Sanitation coordination committee proposed. ■ Community contribution policy was formulated together with other stakeholders for promoting unified approach. ■ The project goes through four key stages-planning, development, implementation, and post-construction. ■ A dedicated component on health and sanitation is included in the design. ■ A dedicated component has been included in the design for institutional strengthening at different levels including NGOs.

Contd...

Contd...

PREVIOUS PROGRAM AND KEY LEARNING	LATEST PROGRAM AND IMPROVEMENTS
<p>Helvetas: Self-Reliant Water Supply and Sanitation Program (SRWSP)</p> <ul style="list-style-type: none"> ■ Lack of ownership feeling in first phase (1976-1994). Top-down approach. ■ Helvetas was procuring some materials for community. ■ Decrease of community contribution because of a reduction in the number of males in the communities. 	<p>Helvetas: Water Resources Management Program (WARM-P) (since 2001) Development Region: Far West, Midwest, and West</p> <ul style="list-style-type: none"> ■ Application of bottom-up approach. ■ All materials are to be procured by the users' committee. ■ Introduction of social preparation phase. ■ Introduction of graded subsidy according to poverty categories.
<p>FINNIDA: Rural Water Supply and Sanitation Support Program (RWSSSP) (1990-2005) Development Region: Lumbini Zone, Tanahu, and Parbat</p> <ul style="list-style-type: none"> ■ No contribution from DDC/VDC in first phase. Decentralization and higher contribution from DDC/VDC in second and third phases. ■ No subsidy in first phase. NRs 1,000 subsidy in second and third phases. ■ Graded subsidy based on wealth ranking was piloted in third phase to increase inclusion. ■ Inclusion of RWSSSP in government annual plan was made compulsory. ■ Weak monitoring and follow up. 	<p>Government of Finland: Rural Village Water Resources Management Project (RVWRMP) (2006-2010) Development Region: Far West and Midwest</p> <ul style="list-style-type: none"> ■ Graded subsidy following successful pilot. ■ Sulab twin pit pour flush latrines are prioritized. ■ Incorporation of CLTS components. ■ Introduction of post-implementation phase with focus on livelihoods/income generation and support to operation and maintenance and using water supply and sanitation facilities ■ Promotion of ecosan latrines (pilot). ■ Local designs and materials to be used due to remoteness of working VDCs (high transportation cost).
<p>UNICEF-SSHE³ (since 1997)</p> <ul style="list-style-type: none"> ■ Schools are the best entry points to cultivate new sanitation and hygiene habits. ■ Need to develop appropriate monitoring and follow-up mechanisms. ■ A joint effort of government agencies and international and national NGOs is the best approach for creating uniformity, standardization, systematic process information, and policy development. ■ The project should be continued by the schools with a long-term vision. ■ Toilets should be child and gender friendly. 	<p>UNICEF-SLTS⁴ (since 2005)</p> <ul style="list-style-type: none"> ■ School and community work in partnership to achieve a collective goal. ■ Mobilization of financial resources such as rewards and revolving loans to promote hardware construction. ■ Total elimination of open defecation is promoted as a key component of the program.
<p>NEWAH - Graded Subsidy / CLTS</p> <ul style="list-style-type: none"> ■ The ignition Participatory Rural Appraisal (PRA) tools are effective in raising awareness and preventing people from defecating openly. ■ A capable facilitator is greatly important. ■ Provision of rewards is a very effective tool to promote affiliation toward the program. ■ Community collective effort is very important for sanitation promotion. ■ The poor and marginalized groups require special attention. ■ Pride is an important component of total sanitized communities. ■ Stopping open defecation practices brings about multiple benefits. ■ Sanimart favors quicker, cheaper, and more effective construction of latrines. ■ Various technological latrine options should be made available at the community level. 	<p>NEWAH - CLBSA⁵ (From July 2007)</p> <ul style="list-style-type: none"> ■ Creation of a community fund to support poor and excluded. ■ Sanitation promotion fund for remote community. ■ Continuation of sanimart concept. ■ Introduction of user-friendly (child, disabled, and women) technological options. ■ Paid job opportunity for poor and excluded. ■ Focus on sanitation as a public concern. ■ Provision of exposure visit for community people and local partner staff. ■ Introduction of basic sanitized community concept. ■ Mobilization of local resources is promoted. ■ Rewards are made available to honor the achievement of open defecation free (ODF) status and basic sanitized community.

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³ DWSS & UNICEF, 2006-A

⁴ DWSS & UNICEF, 2006-B

⁵ NEWAH, 2007

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PREVIOUS PROGRAM AND KEY LEARNING	LATEST PROGRAM AND IMPROVEMENTS
<p>CARE- WATSAN II⁶ (September 2005 - April 2006) Districts: Kailali, Kanchanpur and Baitadi</p> <ul style="list-style-type: none"> ■ Procurement of materials by the Water Users Committees following a quotation permitted to save funds against the estimated budget. ■ Due to the short period of the program, follow-up activities were not assured. ■ Women's participation in decision making could be increased. ■ Users' committees led by women showed better performance in terms of transparency, quality of work, and effectiveness. ■ The design of the project at the central level hinders project sustainability. 	<p>CARE-WATSAN III (July 2006 - June 2007)⁷ Districts: Darchula and Baitadi</p> <ul style="list-style-type: none"> ■ Focus on providing water and sanitation facilities to the poor, disadvantaged, and marginalized households. ■ Cost of nonlocal materials, mason for a day, and material transportation also for a day is borne by the project. ■ The subsidy policy varies depending on the program. ■ Additional support for households without male members. ■ Materials should be procured by the leadership of the users' committee.
<p>PLAN - CSP-1⁸</p> <ul style="list-style-type: none"> ■ Little emphasis given to software and social preparation. Sanitation program concentrated on hardware activities. ■ Little participation of users resulted in low sustainability and cost recovery. ■ Beneficiaries able to have active involvement in program. 	<p>PLAN - Water and Environmental Sanitation Program (July 2005 - June 2010) Development Region: East, Central and Mid-West</p> <ul style="list-style-type: none"> ■ Program is demand oriented. ■ High importance given to social preparation. ■ Implementation of stand-alone sanitation programs. ■ Reduction in hardware subsidies and increase in community contribution. ■ Introduction of CLTS concept.

3.2. Financing Models

As mentioned above, a wide variety of approaches to financing sanitation at the community level have been, and are being, used across Nepal. Each implementing agency has its own specific policy toward and interpretation of each model. Within this document effort has been made to group the wide range of approaches under a number of broad headings to aid understanding and analysis. The main financing models identified are hardware subsidies, loans, software subsidies (here referred to as community awareness), and rewards. It must be appreciated that many sanitation programs have incorporated more than one of these components in their approaches, and therefore the inclusion of the program in one heading or another was not always obvious. Such classification has been done according to the most relevant financial component of the program.

3.2.1. Hardware Subsidies

Traditionally, most agencies utilized subsidies to support construction of latrines. While it is widely accepted that there is a need to provide software subsidies to communities, debate is currently centered on the effectiveness and capacity of hardware subsidies.

The size of hardware subsidies and the procedure for distributing them to communities have been changing based on the lessons learned. Currently, subsidies are rarely handed in cash directly to the households as the chance of misuse is too high. Full hardware subsidies to build latrines are also rare nowadays. The cost of the program increases enormously if all households receive full subsidies, and subsidies have been demonstrated to kill household self-initiative and sense of personal ownership. In all areas of rural Nepal, it is not rare to find high-quality latrines built with the support of

⁶ Available: <http://www.carenepal.org/WATSAN/watsan2/index.htm>

⁷ Program Support Strategy and Procedure Formulation Workshop and Program Operational Manual. Water and Sanitation Program, 2006.

⁸ WES-CPO Plan, 2007

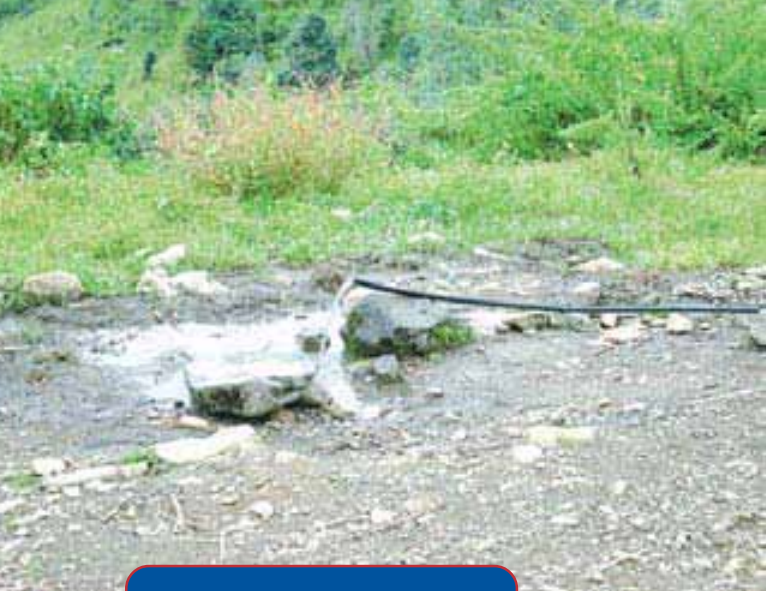
TABLE 3. MAIN FEATURES OF PROGRAMS ADOPTING HARDWARE SUBSIDY MODALITY

AGENCIES							
	ASHA PROGRAM CARE	WATSAN PROGRAM CARE	SAHAKARYA CECI	PHABLES RRN	WARM-P HELVETAS	WHS RURAL TARAI NEWAH	WHS RURAL HILL NEWAH
Tarai/Hill	Hill	Tarai	Hill	Hill	Hill	Tarai	Hill
Type of hardware subsidy	Hardware subsidy	Hardware subsidy up to pan level	Hardware subsidy up to pan level	Minimum hardware subsidy	Graded subsidy	Graded subsidy	Graded subsidy
Materials	1 pan, 2.5 m pipe, 2 bags cement, 2 pcs rod, 2-3 tin and some local materials	6 rings, 1 cover, 1 pan, 2m ventilation pipe, 1 ventilation pipe cover, 1 pipe	1 pan sheet, 2 bags cement, 5kgs of rod, 100grs of wire, 2 m drain pipe, 2m gas pipe and 1 vent cap	1 pan, 2m pipe, 2kg rod, half bag of cement	1 bag cement, 1 pan, 3-4 meters drain pipe, 2.5m gas pipe, 6 kg rod and 200 grams wire	Type I: water seal pan, High Density Plastic (HDP) siphon, 6 concrete rings, 2 circular plain slabs, 2m HDP pipe, half bag cement Type II: 1 water seal pan, HDP bend, 1 siphon, 4 concrete rings, 1 circular plain slab, 2m HDP pipe, half bag cement Type III: 1 circular slab with water seal cement pan with 4 concrete rings	Type I: water seal pan, one siphon, HDP bend, 2 circular plain slabs, 2m HDP pipe, half bag cement and one day skilled mason Type II : water seal pan, HDP bend, one circular plain slab, 2m HDP pipe, half bag cement
Skilled labour subsidised	Yes	Yes (NRs.325)	Yes (NRs.500 distributed after construction)	No	Yes (NRs.600)	Yes (NRs.200) - One day skilled mason	Yes - One day skilled mason
Cost of hardware subsidy per household	NRs.5,000	NRs.3,500	NRs.3,000	NRs.1,000	NRs.2,515	Ultra Poor = NRs.2,630 Poor/Medium Poor = NRs.1,925 or 2,325	NRs.2,000
Who procures hardware subsidy	Users Committee	Users committee through external supplier	Local NGO	RRN	Helvetas (non-local materials)	Users committee at the local level NEWAH-non-local materials	Users committee at the local level NEWAH-non-local materials

contd...

TABLE 3. MAIN FEATURES OF PROGRAMS ADOPTING HARDWARE SUBSIDY MODALITY (CONTD...)

		AGENCIES						
		ASHA PROGRAM CARE	WATSAN PROGRAM CARE	SAHAKARYA CECI	PHABLES RRN	WARM-P HELVETAS	WHS RURAL TARAI NEWAH	WHS RURAL HILL NEWAH
When is subsidy given	NA	After digging pit	After digging pit and constructing latrine house	After digging pit and constructing latrine house	After digging, lining pit and constructing latrine house	After digging pit and procuring all local materials	After digging pit and procuring all local materials	After digging pit and procuring all local materials
Self contribution per HH	NRs. 3,000	NRs. 451	NRs. 6,250	NRs. 4,420	NRs.1,525 (Includes up front cash - Very poor NRs. 50, average NRs. 250 and relatively better off NRs. 300)	NRs.2,671 (Includes up front cash Type I: NRs.800, Type II: NRs.500, Type III: NRs.200, UP: no contribution)	NRs. 300, UP: no contribution)	NA (Up front cash Type I: NRs.500 and Type II: NRs. 300, UP: no contribution)
Health and Hygiene Education	CHV gives training to school and community	Local NGO gives 3 days training to women group	3 days training to local social mobilisers, 3 days diarrhoea prevention session in community and school. Health Literacy Classes by facilitator from community to women group	2 days Sanitation Training to community by supporting NGOs	3 days sanitation training to community	4 days CHV training, 4 days Child Health Awareness Committee (CHAC) training, 1 day orientation to Advisory committee of CHAC, teacher orientation, 2 days orientation to monitor of Community Child Health Group (CCHG), CHV workshop, regular health education in each cluster and school, various health and awareness related campaigns by supporting NGO.	NA	NA



Minimum Subsidy in Garpan (Surkhet)

FIGURE 2: Water supply management needs improvement.

In Garpan, a remote village development committee located in Surkhet district, Rural Reconstruction Nepal (RRN) piloted different financing models. This was done in communities located close to each other, which led to complaints from some villagers.

Between May 2006 and April 2007, households in ward 2 were provided only with minimum subsidy while the neighboring community received full subsidy to build latrines. Every household received one pan, 2 meters of pipe, 2 kilograms of rod and half a bag of cement



FIGURE 3: Latrine constructed with costly materials

after digging the pit and constructing the latrine house. Households had to contribute the rest of the materials as well as all the skilled and unskilled labor themselves. Materials such as cement or stone were costly as they had to be transported from far away. Most households asked for loans at 24% interest from the saving

group of the community, which RRN also supported. Some households had to take two different loans and others even sold assets, such as livestock, to finance the construction of their latrine.

Efforts were made to support disadvantaged households through cross subsidy. In addition, villagers dug pits, carried stones, and constructed roofs for those households in need of help, which reveals a high level of unity between community members. However, delivery of sanitation to the most vulnerable households was not completely successful. Six households could not build the latrine during implementation of the program, mainly because of extreme poverty and absence of males in the household.

a subsidy that are not in use and fall into disrepair or are utilized for other purposes, such as storerooms.

Some programs are still giving high hardware subsidies to construct latrines. This practice was particularly found in programs responding to community demands to reduce poverty. In those programs, the community is given the opportunity to select the intervention most needed; therefore the program only delivers sanitation when the community demands it. The fact that the community decides to allocate limited resources to sanitation rather than other potential areas of investment-such as water supply, education, or health facilities-is significant and is actually different from a traditional, fully subsidized sanitation intervention. Some examples of such programs in Nepal include Accessing Services for Households (ASHA) program from Care, the Community Support Program from the UK Department for International Development, or the Poverty Alleviation Fund (PAF) program from the World Bank. Subsidies given in these programs ranged from NRs4,000 to NRs10,000 per household.

Even though most agencies still have a subsidy policy for latrine construction, the current tendency is toward increasing community contribution. It is a common practice to subsidize latrines only up to pan level, and the remaining superstructure and the unskilled labor are to be contributed by the benefited household. Some organizations-such as Rural Reconstruction Nepal (RRN), Community Forest, and some VDCs-have gone further to reduce their subsidy by offering only a minimum subsidy or an "encouraging subsidy," which consists of providing only a few essential nonlocal materials like a pan or pipe to support latrine construction. The remaining materials and required labor are contributed by the community and individual households.

Graded subsidies were found to be very effective in targeting everyone in the community. The inclusion of the poorest households and socially excluded groups is increased through the provision of additional support. Households are classified into different well-being categories. In some countries, such as India, the government identifies those households which are below the poverty line, and services and subsidies are targeted and allocated accordingly. Although the census in Nepal has gathered information on those living below the poverty line, the accuracy of this data at the micro level has been questioned. As a result, the government and other implementing agencies do not use this household-level information to directly target the poorest households. NGOs and other

service providers categorize communities using participatory approaches and community consensus. This can result in categorization being relative to community perceptions, with the wealthiest groups in some communities being in an equal economic group as the poorest groups in other communities. Thus, community categorization is a difficult process that needs to be well facilitated and requires representation from all groups. Dividing households into different categories can be very challenging because of the lack of community consensus, as often all households want to receive subsidies. It is sometimes difficult to exclude the richest households from receiving subsidies.

A number of agencies across Nepal are using community consensus to categorize communities by wealth ranking. In the program of Nepal Water for Health (NEWAH) program, the community distributes all households into three categories: medium, poor, and ultra poor, based on a set of criteria developed by the community according to basic guidelines provided by NEWAH. Households receive a set of materials and skilled labor for latrine construction after depositing a fixed amount in the bank account of the users' committee. The household's cash and/or labor contribution are graded depending on the household's well-being category, physical ability, technological choice, and geographical location (hill or tarai). Ultra-poor households are exempt from having to contribute cash for direct pit and single offset pit latrines to pan level.

Helvetas' program (Water Resources Management Program [WARM-P]) also makes use of graded subsidies to promote sanitation. However, better-off households are not supposed to receive any subsidy as the program only targets the poorest of the poor. The wealth ranking is jointly carried out by the users' committee and the community facilitator to identify the poorest among the poor. Helvetas' program establishes three categories-relatively better off, average, and very poor-which will receive subsidy. Households also receive the materials after depositing a nominal amount in the bank account of the users' committee.

A summary of different programs following the hardware subsidy strategy is presented in Table 3. Cost, materials provided, and health and education sessions broadly vary depending on the program. In most cases, the supporting organization is providing the nonlocal materials to the users' committee. Only in Care's program was it found that the users' committee was responsible for procuring all the required local and nonlocal materials.

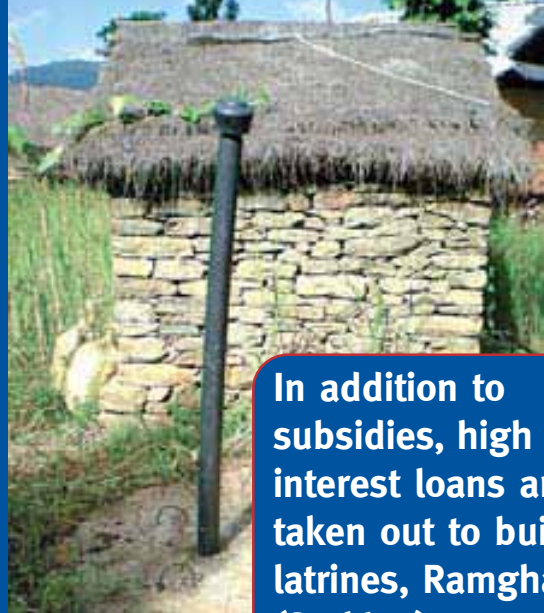


FIGURE 4.
Latrine built
with both
subsidy and
loan

In addition to subsidies, high interest loans are taken out to build latrines, Ramghat (Surkhet)

In Ramghat (Surkhet), the Centre for International Studies and Cooperation (CECI) implemented the Sahakarya project with the support of a local nongovernment organization at the end of 2006. The Sahakarya project promoted improvements to community health and economic development through saving and credit groups and other income-generating activities.

Even though CECI was providing a hardware subsidy of NRs3,000 to build the latrine, around 80% of the households had to take a loan from a money-lender to complete the construction of



FIGURE 5. Women's group

their latrine. Relatively better-off villagers lent between NRs6,000 and NRs8,000 to the interested households at 36% interest. The borrowed amount was generally invested in building the superstructure, as most materials to build the latrine up to pan level were already provided free of cost by the program. After 6 months of having taking the loans, none of the interviewed households had repaid their loan in full. Tension was increasing within those households because of the daily increase in their loan size.

A women's saving group was also established in the village after the implementation of the sanitation program. The saving group lends money to the needy members of the same group at 24% annual interest rate, and to external members at 36% interest rate. The loan is to be paid back in 3 months, but if the borrower does not pay back the loan in time, the interest rate is increased to 36% per annum. The establishment of the saving group before the sanitation program could have allowed many households to avoid taking high-interest loans.

Linking sanitation programs with income-generating activities favors enhanced effectiveness of the sanitation program, since the reduction of poverty and higher availability of financial resources is likely to be translated into improved sanitation practices.

3.2.2. Loans

In Nepal the practice of taking loans to cover the cost of weddings or crises, such as crop failures or serious illnesses, is not a new one. The Central Bureau of Statistics estimated in 2004 that 70% of Nepalese households have a loan that needs to be paid back (Central Bureau of Statistics 2004, in UNICEF 2006). Taking loans to build latrines is also becoming a common practice in Nepal, which hints at an increased priority being given to sanitation. Money is generally borrowed from informal sources such as relatives or private moneylenders, and this often involves very high interest rates.

However, borrowing from institutional sources is also becoming increasingly popular through saving and credit groups and revolving loans. In recent years, countless communities have established saving and credit groups (mostly led by women) and several sanitation programs make community revolving loans systems available to support latrine construction. Institutional borrowing offers moderate interest rates compared to loans taken from moneylenders. Because of the growing importance of revolving loans, this new financial model is specifically addressed later on.

The second phase of the Rural Water Supply and Sanitation Fund Development Program (RWSSFDBP) was initiated in 2004. The project is one of the largest water supply and sanitation programs in the country with a total budget allocation of \$41.5 million for 2004-2009. The overall program has been implemented in seven different batches across 71 districts of Nepal and through more than 200 support organizations. The Fund Board works directly with support organizations, such as nongovernment organizations (NGOs) and private-sector organizations, which act as facilitators in communities. Working with such a large number of organizations has proved challenging. Local NGOs frequently lack sufficient technical capacity to implement the projects, and they are only paid for a few months while the project expects them to work over a longer period.

Rural Water Supply and Sanitation Fund Development Board Program in Jutpani

The project cycle is fairly long. In Jutpani (Chitwan) the program started at the beginning of 2004 (batch VI), but after more than 3 years, the project activities are not yet finalized. Sanitation outputs have almost been achieved but water supply is still to be provided. Water scarcity in the area is severe; householders need to walk around 5 kilometers to access safe water, raising questions about the impact of sanitation services which require water for their hygienic use.

The Fund Board makes available a revolving loan fund for latrine construction, which is calculated by multiplying 25% of the total number of households without latrines by NRs2,000. In Nayatole community (Jutpani), there were 119 households when the project commenced and 69 latrines to be constructed. Only 14 of the 69 households had access to the revolving loan; 10 households borrowed NRs2,000 in a first round, and recently in a second round four further households received NRs2,000 to build their latrine. All the beneficiaries from the first phase have already repaid the borrowed amount in full. According to the regulations of the users' committee, the interest rate is 12% per annum and beneficiaries need to pay back half of the loan after 3 months and the other half during the following 3 months, i.e., the repayment period is 6 months.

However, three households in the community still do not have a latrine, and there is NRs13,000 to be revolved in the users' committee bank account. The three households without a latrine are female-headed households, which cannot build a latrine unless they receive some additional support.

In addition to the Fund Board, Nepal Aadiwasi Janajati Sangh was also promoting latrine construction in Nayatole through the Bote Society in the area. Janajati households received a hardware subsidy in cash from the Bote Society to build their latrines. Duplication of programs divided the community and reduced participation of Janajati households in the Fund Board program.

The RWSSFDBP-I implemented between 1996 and 2003 was the first program broadly promoting revolving loans to finance sanitation. Currently, in addition to the Fund Board program, several other programs-such as School Led Total Sanitation (SLTS) and local bodies under the CBWSSSP-incorporate revolving loans to support the construction of latrines.

In all these programs, the users' committee receives funds in proportion to the size of the community, and these funds are to be revolved among community members. The fund is revolved according to the rules set by the external agency and the users' committee, and the final amount recovered generally remains in the community to be invested in further sanitation improvements. Use of revolving loans significantly reduces the cost of the projects as several households make use of the same funds, but other issues also need to be considered:

- Long repayment periods slow the revolving process, whereas repayment periods which are too short or unrealistic cause households to default on payments.
- Due to the fund having to be revolved three or even four times to cover the whole community, the implementation period for this approach is often longer than other approaches.
- Disadvantaged households are often excluded from taking revolving loans, as they feel they will not be able to repay the loans and fear the burden it will place on their families.
- Generally, the amount lent is not sufficient to build a latrine and therefore some households have to take additional loans from private moneylenders or relatives to complete construction of the latrine. In cases where additional funding sources are available, the question of what value a revolving fund adds arises, as promotion of the latrine and awareness of financing option would have had the same impact.

3.2.3. Community Awareness

Experience demonstrates that the construction of latrines only, without software activities (so-called "latrinization"), frequently results in poor long-term sustainability of latrines and the lack of adoption of safe hygiene practices. This is the case in Nepal, as traditional behavior is deeply rooted in most communities. The rush to meet national and international targets, which are usually limited to latrine numbers, has in the past often resulted in a lack of attention to, and emphasis on, awareness-raising activities.

Approaches that focus solely on or include community awareness are increasingly common in Nepal. In the long term, an understanding of the links between sanitation and health is essential, and as a result most sanitation programs incorporate hygiene and health education packages. Community awareness and the generation of demand for sanitation can be created using a number of different approaches. Building an awareness of the convenience, shame, and prestige related to sanitation (or the lack of it) have also been identified as an effective means of stimulating latrine construction and use within a community.

The focus areas and intensity of awareness-raising activities differs depending on the program; consequently, the impact and effectiveness also vary. Some programs provide solely software support whereas others combine both software activities with financial assistance for latrine construction. Lately, the promotion of "total sanitation" is gaining momentum, which includes not only safe disposal of excreta but also health and hygiene education and proper management of solid and liquid wastes.

The main organizations essentially relying on software activities to promote sanitation include the UNICEF, the Gurkha Welfare Scheme (GWS), Plan, National Red Cross Society (NRCS), and NEWAH. These organizations are implementing relatively new models such as the School Sanitation and Health Education (SSHE) Program, SLTS, Community Led Total Sanitation (CLTS), and Community Led Basic Sanitation for All (CLBSA), which is reviewed in the Mixed Approaches section on page 24.

The above-mentioned models initially create demand and raise awareness within the community and later on promote hardware construction. Awareness-raising activities (such as group discussion, street drama, rallies, or door-to-door visits) and Ignition Participatory Rural Appraisal (IPRA) tools (such as social mapping, feces calculation, or flagging of open defecation) are frequently used to sensitize communities to the benefits of a healthy environment. Hardware construction is addressed through detailed explanation of available latrine designs and materials, training of sanitation masons, construction of demonstration latrines, and/or establishment of local shops to make available nonlocal materials at affordable prices.

3.2.3.1. Community Led Total Sanitation

Community Led Total Sanitation (CLTS) was conceived in Bangladesh in 1999 to address low sanitation coverage in the country. Outstanding results in this particular program brought about interest to replicate the same approach in Nepal. Since 2003, several agencies-including WaterAid Nepal, Plan Nepal, NEWAH, and RRN-have been piloting CLTS in Nepal. As will be discussed later, WAN and Plan Nepal have both done external assessment of the CLTS work they have supported to date and CLTS has emerged as a very cost-effective tool for speeding up achievement of total sanitation coverage.

The main focus of CLTS is stopping open defecation through collective community action. Sanitation in CLTS is understood as a public good and not as an individual task; therefore all community members work closely together to achieve the common objective of total sanitation.

Effective motivational tools-such as a walk of shame and praise, social mapping, group discussions, and feces calculation-are applied to initiate the process and stimulate behavioral changes toward hygiene. Children play a crucial role in the overall process; CLTS makes use of children's enthusiasm to monitor proper use of sanitation facilities. Formation of a sanitation committee and elaboration of a plan of action to stop open defecation are also key components of CLTS. As mentioned above, these motivational tools often focus on community pride and dignity in relation to sanitation rather than the direct links between sanitation and health.

A core principle of CLTS is that hardware subsidies are not provided but communities are encouraged to identify their own financing mechanisms-such as cross subsidy, prizes, or saving and credit groups-to support latrine construction. However, implementing this approach in areas where subsidies have been given in the past has proved to be difficult. Villagers are frequently aware of neighbors who have received subsidies earlier and therefore people expect the same support to build their latrine.

The initial focus of CLTS is for the community to achieve open defecation free (ODF) status through the construction of inexpensive but hygienic latrines utilizing local materials and low-cost technologies. Households receive training in a wide range of technological options suitable for the local context. Procurement of materials is also addressed through promotion of sanitation centers and local production of certain materials.

Once a community achieves ODF status and new habits are adequately assimilated, the community is considered to be on the "sanitation ladder" which is believed to ensure use and progressive upgrading of latrines. Monitoring and follow-up activities are greatly important to sustain the communities in the long run and to encourage people to upgrade their latrines to more durable ones.

3.2.3.2. School Sanitation and Health Education Program

In 1997, UNICEF started a large initiative in partnership with the NRCS and NEWAH to implement School Sanitation and Health Education (SSHE) programs in several districts of Nepal. By 2005, UNICEF was working in 15 districts under the Decentralised Action for Children and Women (DACAW) (DWSS and UNICEF 2006-A). To date, Water Supply and Sanitation Divisional Office and NRCS have been the main implementers of SSHE programs in DACAW districts. Apart from UNICEF, other agencies-such as Save the Children, GWS, and the Japanese Red Cross Society through the International Friendship Program-have also been promoting SSHE programs.

Under this approach schools are used as a main entry point to bring about hygiene and health awareness to communities. The main aims of the SSHE program are to raise awareness among children on the importance of following proper hygiene and health practices and to ensure basic sanitation in the school through the provision of water supply and sanitation facilities.

Child and youth learning are believed to have an amplified effect within communities, as their habits are likely to be passed on to other family members, and particularly to the next generation. Therefore, several current programs are targeting children and youth as the main change agents in order to convey sanitation promotion from child to child, from child to family, and from child to community.

Schools are permanent institutions and education alone is the central duty of the institution; building on this established institution helps to keep costs low. Health and hygiene education is included in the national curriculum, but it is often squeezed out and not prioritized due to the pressures to teach other subjects which are perceived to be of more worth. As teachers are frequently not motivated to include health and sanitation education in their curriculum, special support to launch SSHE programs in schools is generally required.

Community awareness as an exclusive tool to promote sanitation. Birendranagar, Chitwan

The Gurkha Welfare Scheme (GWS) implements integrated water supply and sanitation schemes using the so-called "stepwise approach" in which a series of comprehensive steps is followed to deliver both water supply and sanitation to rural communities. Sanitation is set as a precondition for water supply. Community people often give less priority to sanitation compared to water supply, and therefore water supply is used as a practical incentive to increase the involvement of communities in sanitation activities.

The GWS does not provide any hardware assistance for household-level sanitation promotion. The community has to contribute all materials, as well as both skilled and unskilled labor. Only software is provided through a social supervisor and a community hygiene worker, who undertake hygiene and sanitation awareness activities—such as community mapping, home visits, hygiene message-tile selection, construction of demonstration latrines, and household latrine construction and progress monitoring—to stimulate behavioral change.

In Birendranagar, out of 246 households only 40 had permanent latrines prior to program implementation in 2005, but after 3 months of project activities sanitation coverage and usage reached 100%. Despite the composition of the Water and Sanitation Management Committee indicating a lack of focus on inclusion, the project increased latrine coverage successfully among all sectors of the community.

Although the GWS was not providing any financial or hardware support to the community, at that time Community Forestry was also promoting sanitation in the same area with the provision of four rings and one pan to the poorest

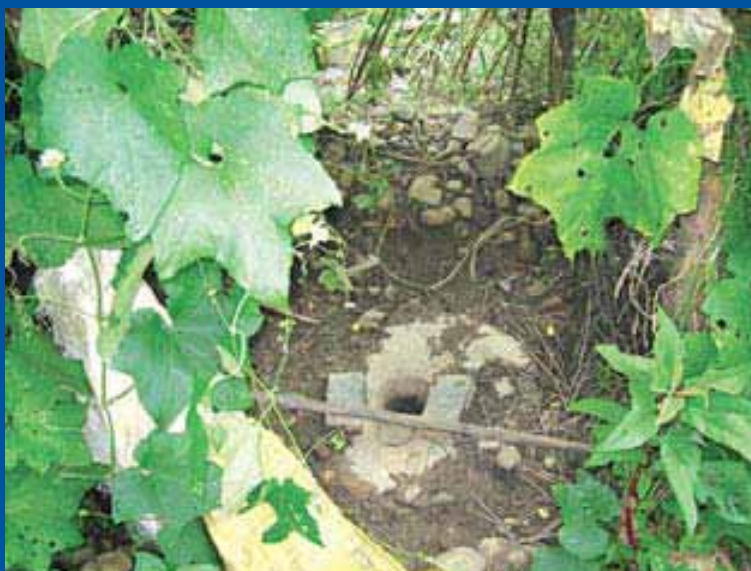


FIGURE 6. Latrine with superstructure made out of sticks and leaves

households. In fact, several households stated that the availability of a hardware subsidy from Community Forestry was the main reason to build a latrine. Thus, it is difficult to gauge whether the poorest households would have built a latrine without receiving the support from Community Forestry. In addition, most households expressed their dissatisfaction with their latrine, as they could only build direct pit latrines and their superstructures were very temporary (Figure 5). The joint efforts of different organizations might be very effective in maximizing resources, but proper coordination is also required to avoid undesired interferences.

Using water as an incentive can be useful to stimulate the construction of latrines, even though households only receive software support. However, such a strategy also presents certain limitations, such as the impossibility of using the precondition in communities already having water or the risk of promoting "latrinization" instead of behavioral change, as perceived need for the latrine might not be properly developed.

Community Led Total Sanitation in Shumshergunj, Banke

Community Led Total Sanitation (CLTS) was successfully introduced in Shumshergunj-6, a community with 59 households, mostly belonging to Dalit and Janajati castes. Coverage increased dramatically, reaching open defecation free (ODF) status in only 2 months. Prior to the program the community only had 2 permanent and 10 temporary latrines; however, now everybody uses a latrine to defecate and all households have latrines, only nine of which are temporary.

The program was funded by Plan International, and the International Development Society (IDS) acted as a facilitator within the community. IDS conducted health orientation sessions and several training sessions for community members. Children's clubs were also effectively mobilized and children were very active in spreading health messages through the community. Children's clubs organized several activities-including street dramas, quiz contests, and cultural programs-to raise hygiene awareness in the village.

The construction of permanent latrines was fostered by honoring those households that built the best latrines. Nine households were awarded with a set of cleaning products including bucket, brush, towel, soap, and toothpaste. Another innovative initiative (agreed upon among all community members) was that of penalizing those persons found practicing open defecation. Likewise, drunkards also received the same penalty for being drunk; four people have already been fined in Shumshergunj. The offender is fined NRs101 and this is shared equally between the person who reports and the users' committee. The children's club and five health volunteers monitor the water and sanitation condition of the area regularly. The community has also built a toilet in the community church, because prior to the CLTS program there was only one facility for urination.

The dual approaches made the implementation of the program more difficult to some extent. Nepal Water for Health had been giving subsidies in nearby communities, making the task of convincing households to build latrines without any support even more challenging. Nevertheless, after declaring the community ODF, the community became very proud of their own achievements and even neighboring communities demanded the same program for their own community.

Plan International has identified that shifting between program approaches may be problematic in certain areas. Consequently, it is still implementing its Water Supply and Sanitation (WATSAN) Program with two different approaches. The minimum-subsidy approach is used in those areas where a program was already running, and CLTS is only introduced in new project areas.

In fact, capacity building of main stakeholders (teachers, parent-teacher associations, and local government bodies [LGBs]) is carried out during the preparation phase of the program.

A children's club is formed in every school to actively support the child-to-child activities of the program. Child-to-child activities are centered on problem-solving methodologies to study sanitation-related problems and find suitable solutions. The SSHE program often leverages off national events-such as the hand-washing week and the latrine promotion week-to launch a hygiene and sanitation campaign in schools and communities. During construction of school latrines and water supply facilities, students actively follow the process and are taught about the proper maintenance of the facilities.

Hardware support is limited to the provision of water supply and sanitation facilities to schools. The cost of providing latrine facilities to schools is borne 50% by the government or donor and 50% by the school and/or community, while 20% of the cost of providing water supply facilities is borne by the school and/or community. Even though supporting agencies only provide assistance for 3 or 5 years, the school program has a long-term vision and the aim is for it to be continued by the school in the future. Refresher training may be necessary to guarantee continuation of activities. Adaptation of information, education and communication (IEC) materials to suit the local context is also recommended.

The program does not include any mechanism to support poor households. Apart from hand-washing week and latrine promotion week, most program activities do not directly target the community and therefore total latrine coverage is rarely achieved in SSHE focus areas.

3.2.3.3. School Led Total Sanitation

Following the introduction of CLTS, UNICEF adapted the approach to focus on the increased work they do with children. As a result they developed the School Led Total Sanitation (SLTS) program in Nepal with encouraging results. UNICEF's supported program is being implemented by the DWSS and NRCS from 2005 onwards in 23 districts of the country, including the 15 DACAW districts. The program also fosters partnerships between stakeholders at the central, district, village development committee (VDC), and school levels (DWSS and UNICEF 2006-B). Other agencies such as NEWAH have also piloted the SLTS approach.

SSHE program in Bhimnagar School, Gunjanagar, Chitwan.

In the catchment area of Bhimnagar School, out of 600 households only 10% had latrines before the Nepal Red Cross Society (NRCS) introduced the School Sanitation Health Education (SSHE) package in 2004 under the International Friendship Program. Three years later, 90% of the households have constructed latrines. In addition to the awareness campaigns delivering continuous awareness-raising activities among students, the project has provided one latrine to the school at a total cost of NRs100,000, which was financed 60% by NRCS and 40% by the school and the village development committee.

Sanitation conditions in the area have improved substantially since initiation of the program. The school and the children's group (the so-called Junior Red Cross Circle) have been leading the behavioral change process. Students visited most households to convince community members to change sanitation habits. In addition, students distributed several metal sticks among households in the catchment area to facilitate collection of rubbish from household compounds.



FIGURE 7. Female toilets in Bhimnagar School



FIGURE 8. Flooded temporary latrine

SSHE does not incorporate any mechanism to target the poor. Total latrine coverage could not be achieved because the poorest people lack sufficient funds to build a permanent latrine. Several low-income households used to have very temporary latrines, not financed by any source. However, most of the latrines were flooded during the rainy season (Figure 7), forcing villagers to practice open defecation once again. During group discussions, community people expressed the view that some kind of subsidy should be given to the poorest households to help them build their latrines.

A few of the households had built latrines with the support of a revolving loan made available through a women's group. However, not everybody could afford to take out a loan. One ultra-poor householder with no latrine stated that "many organizations have been offering us loans to build a latrine but we could not accept it because we would not be able to give it back."

Currently, community and school members are demanding several further improvements to their sanitation facilities, such as improvement of school toilets, as they are insufficient to cover female students' needs. Surprisingly, there is a higher female student population because most boys are sent to the private school in the area. In the planning process, the higher numbers of females should translate into increased sanitation fa-

ilities for them. Currently, sanitation facilities for females consist of two toilets and one menstrual hygiene facility (Figure 6). The community is also planning to build a public latrine in the village bazaar in order to improve the sanitation condition of the area, as currently those people working in and visiting the bazaar do not have access to any public sanitation facility and, as a result, sometimes defecate in the open.

As in CLTS, the SLTS program aims at stopping open defecation but uses the catchment area of the school, rather than a single community, to define its target area. Defining the exact catchment area or area of influence of the school can be difficult when students come from different, and often scattered, localities. The impact of the program in different communities might vary depending on the community's location in relation to the school and the proportion of households with children attending the school.

SLTS comprises both the basic elements of the SSHE package and the IPRA tools from CLTS (DWSS and UNICEF 2006). As with SSHE, schools remain the entry point of the sanitation program, and water supply and sanitation facilities are provided with the support of both the VDC and the school. As is the case with CLTS, communities are directly targeted with participatory awareness-raising activities, although in SLTS, children's clubs and students are the main agents of the initiating process. Other key activities in SLTS include the formation of a sanitation committee, and the development and implementation of a plan of action.

Schools are generally fixed institutions and this can positively impact on the sustainability of any committee established and linked within them. However, the members of the school are not always representative of the communities around them, as many poorer and excluded groups do not send their children to school and therefore are not part of the institution. This could lead to a lack of real participation and ownership by all target groups of the activities promoted by the school committee.

Unlike SSHE, SLTS makes available some financial resources to motivate and support the declaration of ODF areas. Subsidies are strongly discouraged in SLTS, following the principle of CLTS that household subsidies inhibit personal ownership of the process and cause long-term dependency on external resources. Rewards and revolving loans are seen as the most suitable tools for encouraging construction of sustainable latrines. A revolving loan ranging from NRs10,000 to NRs50,000 is provided to each school to support poor households to build a latrine. Alternatively, those schools which are able to keep their catchments free from open defecation using only community resources are granted an award ranging from NRs10,000 to NRs35,000 by the support organization.

3.2.4. Rewards

The use of rewards is also gaining popularity as an effective tool to encourage achievement of public outcomes and construction of quality latrines without providing any kind of hardware subsidy. Rewards are common in CLTS and SLTS programs, and LGBs are also increasingly using rewards to promote sanitation in their areas of influence. Sometimes rewards are given upon the achievement of a community outcome such as ODF status. For example, the district development committee (DDC) of Bara is giving NRs50,000 to those VDCs achieving 100% sanitation coverage (Nepal Country Paper 2006). In other instances, LGBs honor those households which have built a permanent latrine. Examples of such initiatives were found in Tanahu and Kapilbastu, where the DDC is rewarding those households building good quality latrines. However, software activities are not integrated into the program and therefore the impact of such initiatives is somewhat limited. In Kapilbastu, all VDCs can apply to participate in the community sanitation program launched by the DDC in 2006. The program makes available some funds to reward those households building hygienic latrines. Currently 11 VDCs are participating in the program. About 250 households received a reward of NRs500 during 2006, and around 500 received a reward of NRs1,000 during 2007.

Although this review focuses on financing models at a community level, within South Asia are examples of rewards being used by national and state governments as incentives to local government bodies to address sanitation. These have often been applied by rewarding sanitation outcomes. In the Indian state of Maharashtra, rewards for achievement of ODF status were offered at various levels, from community to the equivalent of VDC level, by the state government. This motivated politicians, local officials, and community groups to work together to increase sanitation coverage, and in a relatively short period coverage has increased dramatically. The World Bank's Water and Sanitation Program is currently supporting state governments in Pakistan to adopt similar incentive schemes. The heart of these strategies has been the public-good nature of sanitation and the motivation of stakeholders engaged in sanitation activities at various levels to work toward a common goal.

SLTS in Shree Sindhu Primary School (NRCS-UNICEF), Byas Municipality, Shera, Tanahu.

School Led Total Sanitation (SLTS) was introduced in the Shree Sindhu Primary School by the Nepal Red Cross Society (NRCS) with the financial support of the United Nations Children's Fund at the end of 2005. In the Shree Sindhu Primary School, there are 82 students, whereas in its catchment area there are 112 households, the majority of them being poor households headed by Janajatis. Prior to program implementation, 21 households had latrines but only half of the households were using them. The Gobar Gas Company had supported some of the households to build permanent latrines in the past.

The Junior Red Cross Circle and the sanitation committee organized numerous activities to mobilize the community and raise sanitation awareness. A sanitation table with a few basic hygiene-related articles is displayed in the school as a reminder of the importance of following hygienic practices (Figure 8). Members of the Junior Red Cross Circle utilize whistling and flagging as an effective means of discouraging open defecation.

At the community level, four masons were trained to support latrine construction. The joint efforts of local government bodies, the NRCS, and community benefited the entire community. One caretaker from the community working as a volunteer and one community health volunteer (CHV) paid by the municipality and the public health office are also in charge of spreading sanitation messages among community members.



FIGURE 9. Sanitation table displayed in the school.

After 1.5 years of project activities, all except 10 households have built latrines. The catchment area has already been declared an open defecation free area as all households are using latrines, albeit not their own in a few cases.

Both minimum hardware subsidies and/or revolving loans were provided to those households requesting support from the sanitation committee. It is worth noting that, despite project guidelines discouraging the provision of subsidies, NRCS provided minimum hardware subsidies, consisting of one bag of cement to three households, plastic pans to 16 households, and pipes and brushes to every household.

In addition to the hardware subsidy, NRCS gave NRs20,000 to the sanitation committee to be used as revolving loan funds in the community and catchment area. Every household demanding the revolving loans received up to NRs500, to be repaid within 6 months with no interest. At the time of the field visit, the second round of revolving loans was taking place. Out of the 40 households who received the loan, 17 households had not repaid the loan despite the repayment period being over. Incorporation of incentives and/or penalties could favor punctual collection of revenue.

The community affirmed that there were some difficulties in accessing certain materials, as transport to reach the closest market is not that frequent. NRCS provided pans, cement, and pipes to several households. Most materials to build the superstructure were procured locally. Even though funds to support the construction of latrines were made available, most latrines built as a result of the program are direct pit latrines with very temporary superstructures. During group discussions, community people stated the view that it would be better if some kind of subsidy was provided to the poorest households to build their toilets. Most households stated that they would like to build a permanent latrine but they lacked sufficient finance. In the area, some households have received a reward of NRs1,250 from the Finnish International Development Agency and a municipality fund. However, only those households having permanent latrines could receive such reward (section 3.2.5.).

Local Government Initiative: Rewards for Permanent Toilets in Shera

In Tanahu, the Finnish International Development Agency (FINNIDA) was implementing its Rural Water Supply and Sanitation Support Program in close collaboration with the local government body. Despite project activities having not been completed in some of the village development committees, the program was phased out at the end of 2005 and therefore FINNIDA staff could not continue with the implementation of the program. In view of this, FINNIDA decided to hand over the uncompleted schemes to the district development committee (DDC).

As per government initiative, the unused funds were given as a reward to those households building permanent latrines. In 11 wards of Vyas Municipality (Tanahu), the reward was NRs1250, out of which NRs750 was from FINNIDA funds and NRs500 was contributed by the municipality. The DDC worked in collaboration with a women's cooperative to identify those households building permanent latrines and therefore deserving to receive the reward. The women's cooperative also lent money at 12% interest rate to the poorest households to build latrines.

In Shera, ward number 6 of Vyas Municipality, 21 households with permanent latrines were selected to receive the award. In the same area, NRCS is implementing the SLTS program, and most households participating in that program could only build direct pit latrines and therefore were not eligible to receive the reward. Some households with temporary latrines complained as they felt they deserved a similar reward.

Households who had received support from the Biogas Support Program were receiving the reward. A householder who had received the reward for her latrine built 5 years ago made the following wise comment: "the reward from FINNIDA should be given to those households having a temporary latrine so they can build a permanent latrine." The government initiative is worthy of note; however, it failed to reach the most in need and only the relatively better-off benefited from the program.

3.2.5 Mixed Approaches

As mentioned above, at the broadest level the approaches in Nepal can be clustered into three main groups—subsidy, loans, and community awareness. However, some programs, although centered around one approach, have included elements of other approaches in their models. Examples of this are CLTS (which promotes cross subsidy) and SLTS (which includes some revolving loan support), and most subsidy approaches have some level of community awareness. In this section, two relatively new financing models, which incorporate elements of the three main groups, are described.

3.2.5.1 Community Based Water Supply and Sanitation Sector Project

Currently within Nepal there is one program that has formalized the mixing of these core groups within its approach. The Community Based Water Supply and Sanitation Sector Project (CBWSSSP) designed its strategy to deliver sanitation by incorporating the key elements of all the three main groups. The program, supported by ADB with \$35.7 million, is one of the largest rural water supply and sanitation programs in Nepal. The program aims to work in 21 districts in the West, Midwest and Far West development regions of the country between 2004 and 2009.

The financial model to promote sanitation is unique and fairly complex as it incorporates a number of different financing models. Community awareness is used to encourage households to build latrines from self-initiation, but financial resources are also made available with hardware subsidies for the ultra-poor households, as are revolving loans for the poor and medium-income households. In the first batch, the poorest 10% of households were provided with a NRs3,000 hardware subsidy and the next poorest 10% received a revolving loan of NRs3,000. In subsequent batches, the revolving fund amount has been provided to 32% of the households in order to further facilitate access to financial resources and favor construction of good quality latrines.

In terms of investment in software, activities are based on PHAST (Participatory Health and Sanitation Transformation) and PRA tools to effectively disseminate the health and sanitation message to the community and, remarkably, to users' committee members, women, and children. Training is provided at the beginning of the intervention to the staff of the concerned nongovernment organizations (NGOs), CHVs and water users' committee members.

The Community Based Water Supply and Sanitation Sector Project in Bashkhor

Bashkhor is a Madhesi community with 114 households located in Kapilbastu district. About half of the households in the area have good latrines up to pan level (provided by a previous sanitation program) but most latrines are not in use because of lack of ownership and hygiene awareness.

The CBWSSSP was initiated in Bashkhor in mid-2006; after more than 1 year of project activities sanitation activities are ongoing and water supply is still to be provided. Initial training of the users' committee, women's group, masons, and children has already been completed. Despite the provision in the project guidelines to train an equal number of male and female masons, in Bashkhor only male masons could receive training as it was difficult to involve females due to cultural reasons.

Subsidies and revolving fund loans were distributed by the users' committee to the selected households, and at the time of the field visit the benefited households were building their latrines. Eleven households received hardware subsidy and seven households received a revolving loan of NRs3,000. Revolving loans and subsidies were provided in the form of materials and skilled labor to build latrines up to pan level.

Field evidence showed that subsidies were not distributed equitably in Bashkhor. While only the poorest households should have received a hardware subsidy, relatively better-off households were found to have also received a subsidy. Even though the entire revolving loan fund was distributed, the demand for loans was found to be low and therefore loans were distributed on a first-come, first-served basis.

Around 60% of the households are expected to build a self-initiation latrine. Provision of subsidies and loans seems to act as a disincentive for other households to build their latrine with their own resources. In Bashkhor, no one has built a self-financed latrine since initiation of the project activities as people are apparently waiting to receive either a subsidy or a revolving loan.



FIGURE 10. Newly completed latrine



FIGURE 11. Ongoing latrines construction

Sanitation masons are also extensively trained. In addition, the program makes provision for refresher training to reinforce the impact of the hygiene sanitation and behavior change program.

The CBWSSSP was approved in 2004 and a pilot batch was initiated in 2006. However, to date progress in all the project areas is modest for both water supply and sanitation. Some of the challenges faced by the program are summarized below.

- Complex financing model at the community level. Due to the different models being used for various sections of the community, clear training and communications on these are essential to ensure that a transparent approach is understood by all.
- Uniformity of communities in terms of poverty hindered effective application of the sanitation financing modality, i.e., some communities faced difficulties in allocating the amount granted as a hardware subsidy because of the large number of poor households equally deserving of the granted amount.
- A high number of layers of organizations involved in the process. The CBWSSSP office through the district water supply and sanitation support unit under participating DDCs works with local NGOs in partnership with national NGOs in each district, and at the same time works in joint venture with local NGOs.
- Lack of technical capacity of national and local NGOs.
- Staff are paid full time for a few months even though they have to work for a longer period on a part-time basis.

3.2.5.2 Community Led Basic Sanitation for All

Community Led Basic Sanitation for All (CLBSA) is a new approach developed by the Nepal Water for Health (NEWAH). It incorporates the main lessons from NEWAH's past experience, and implementation began in 2007. The model is

inspired by CLTS, and similarly the entire community is mobilized to achieve basic sanitation for all. Unlike CLTS, however, CLBSA incorporates a community fund to support the ultra poor and excluded to build latrines with the provision of certain materials and skilled labor. The households in need of support are identified through well-being ranking exercises and household visits. NEWAH transfers the funds at an advanced stage of the program on the basis of actual expenses. Thus, the users' committee is encouraged to find alternative ways to support the ultra-poor households, such as mobilizing their own resources, taking loans from local providers, or seeking LGB support.

The program is delivered in two stages. In the first stage the community achieves ODF status, and in a second stage the community moves toward a basic sanitized community. Use of hygienic latrines and other indicators involving a clean and healthy community are applied to declare the community a basic sanitized community.

Innovative promotional activities, such as video shows of those communities that are already declared ODF and basic sanitized, and stool tests to show the main dangers of open defecation practices, are also used in CLBSA to promote sanitation practices and behavioral change. Awards are also used to motivate people to actively participate in the program. Letters of appreciation and small awards are given to those households playing a leading role. The children's group also receives sports materials worth NRs3,000 in two installments-after public declaration of ODF status and after basic sanitized community status. Finally, a community achieving ODF status receives a reward of NRs8,000-NRs10,000 and a certificate. The basic sanitized community is awarded with NRs10,000 and a certificate.

4. Multi-Criteria Analysis of Financing Models

The main financial models described in this report are analyzed through a multi-criteria analysis (MCA) framework. Key areas of the broad models for financing sanitation have been analyzed against a number of criteria which have been clustered under three dimensions. The criteria in the first two dimensions-economic and social-look at the approaches, focus, and inputs of each model and the effect these criteria have on increasing sanitation coverage. The third dimension includes

three criteria by which sustainable sanitation coverage can be measured and the outcomes of the models analyzed. It is recognized that the economic and social criteria have an impact on the successful outcomes of the sustainability criteria. Table 4 has a concise description of the criteria, and indicators used to evaluate the different alternatives under the economic, social, and sustainability dimensions are presented.

TABLE 4. EVALUATION CRITERIA

DIMENSION	CRITERIA	INDEX / INDICADOR
Economic	Project duration	Quantitative evaluation of the time taken to complete the program in one project area. It is considered that a project starts with the formation of the users' committee and finishes with completion of sanitation construction activities. Follow-up activities are not considered as they are usually carried out on intermittently over a long period.
	Hardware cost per community	Quantitative evaluation of the material and labor cost subsidized by the donor. It does not include the cost of institutional latrines.
	Software cost per community	Quantitative evaluation of the cost of training at community level, IEC materials, salaries for community staff, and rewards and token money given to the committees for sanitation activities.
	Community contribution	Qualitative evaluation of materials and labor contributed by community to build latrines. The community's own unpaid labor and free local materials are not included.

Contd...

TABLE 4. EVALUATION CRITERIA (CONTD...)

DIMENSION	CRITERIA	INDEX / INDICADOR
Social	Additional support to the very poor	Qualitative evaluation of special assistance given to ultra-poor households to build their latrines, e.g., additional subsidies or cross subsidies.
	Inclusion of disadvantaged households	Qualitative evaluation of the active participation of disadvantaged households. It includes the involvement of women and ultra poor in the users' committee, and paid employment or training in specific skills given to the disadvantaged groups
	Community unity	Qualitative evaluation of the degree of community unity promoted to achieve the goals of the program.
Sustainable Total Sanitation	Hygienic latrines	Qualitative evaluation based on the type of latrines found in the community. A latrine is considered hygienic when human excreta is not visible, flies and other insects do not have access into the latrine, and surrounding water sources are not polluted. Unhygienic latrines are considered unsustainable.
	Use of latrines	Qualitative evaluation based on the level of latrine use in the community. Some households may not have a latrine but use that of a neighbor or relative, while others may have one but may not be using it due to lack of awareness. Evidence of open defecation in the community was also used as an indicator.
	Total coverage	Qualitative evaluation of the number of households without a latrine.

4.1. Economic Dimension

Within the economic dimension, not only the financial costs (such as hardware and software) have been evaluated but also the costs such as time and labor. To be able to establish comparisons, costs were calculated for an example Nepalese community made

up of 99 households, with an equal number of medium, poor, and ultra-poor households. The evaluation of the economic criteria for each financial model is shown in Table 5. Analysis of the major findings and relevant issues related to the economic dimension of every financing model is broadly examined in the following subsections.

TABLE 5. IMPACT MATRIX WITH ECONOMIC DIMENSION

FINANCIAL MODALITIES	ECONOMIC CRITERIA				
	PROJECT DURATION ⁹	HARDWARE DONOR COST PER COMMUNITY (NRs)	SOFTWARE DONOR COST PER COMMUNITY (NRs)	TOTAL DONOR COST PER COMMUNITY (NRs)	COMMUNITY CONTRIBUTION (NRs)
Full subsidy to pan level	5 months	339,587	14,000	353,587	Moderate
Graded subsidy	15 months	203,115	54,827	257,942	More or less good
Minimum subsidy	9 months	99,000	24,000	123,000	More or less good
Revolving loan ¹⁰	24 months	62,500	28,000	90,500	Good
Subsidy + revolving loan ¹¹	21 months	60,000	50,000	110,000	Good
CLTS	2 months	0	17,000	17,000	Very good
SLTS	18 months	17,500	23,294	40,794	Good

⁹ Duration of the project is only up to the completion of hardware construction and does not include follow up software activities

¹⁰ Modality adopted by the WB funded RWSSFD

¹¹ Modality only adopted by the ADB funded CBWSSP

4.1.1. Duration of Sanitation Project

The time taken to construct sanitation hardware (understood in this study as the project duration) varies considerably between approaches and sanitation programs in Nepal, ranging from a couple of months in CLTS to 24 months in the Rural Water Supply and Sanitation Fund Development Board Program (RWSSFDBP). Mostly as a result of fixed program costs (such as project staff salaries), project duration is indirectly related to the cost of the program.

It should be noted that those programs that integrated water supply and sanitation lasted no longer than those implementing stand-alone sanitation programs. In the case of integrated water and sanitation programs, there was a diverse mix of programs: those leading with water activities (as access to water is required for successful latrine adoption), those implementing the two components simultaneously, and those also using latrine construction as a precondition for water activities.

The main issues related to the duration of the projects which arose during the review of the case studies are summarized below.

- Motivation of people to build latrines is highest at the beginning of the project, following mobilization and training. Capitalizing on this initial momentum was seen as an effective means of ensuring total sanitation coverage.
- In different approaches, the timing of the provision of funds acts as both an incentive and disincentive to engagement in latrine building and use. In some programs, particularly those involving the provision of revolving loans, households have to wait for their turn to receive financial support, which causes long implementation periods and frustration among community members, and may result in reduced enthusiasm to participate in the program.
- Some programs provide funds on an installments basis, wherein initial support is followed up with additional funds based on satisfactory progress. Although this practice acted as an incentive to build latrines, it lengthened the duration of the construction activities and, in some cases, held back some households willing to construct latrines. In other approaches where rewards are given to the community following the achievement of sanitation outcomes, communities have had to build latrines before financial support is received, and this was found to encourage community engagement and speed up the realization of sanitation coverage.

- It was clearly seen that sustainable behavior change takes some time to achieve; therefore, although an initial "sanitation surge" is necessary, continued software activities are required over a longer period.
- Those programs with financing strategies that enabled or encouraged sanitation hardware activities to be completed quickly, with a "sanitation surge" in the community, were seen to be successful in achieving sanitation outcomes such as total coverage and stopping open defecation practices. It was recognized that the achievement of quick hardware goals needs to be supported with simultaneous and long-term software activities to ensure latrine use and upkeep.
- The inclusion of a post-implementation phase was seen as crucial to ensure supplementary time to finalize certain activities, provide the community with additional training and support, and provide proper monitoring and follow-up of the sanitation achievements.

4.1.2. Significant Variation in Program Cost

As mentioned in the limitations, this study has not tried to analyze the total cost of implementing sanitation programs. Instead it focuses on the allocation and distribution of resources at the community level. We have therefore not looked at the administrative costs of designing and implementing sanitation programs, which vary depending on the scale and type of organization implementing the program. The total cost of sanitation programs at the community level was found to vary enormously depending on the approach adopted (Figure 12), as well as geographic location and latrine options promoted. The donor cost at the community level for an example Nepalese community of 99 households ranges from NRs17,000 to NRs340,000.

The provision of hardware subsidies in sanitation approaches is shown to greatly increase the cost of the program at the community level. Hardware subsidy up to pan level, graded subsidy, and minimum subsidy are all costly models, but the cost differs significantly depending on the type of subsidy. Providing minimum subsidy, consisting of a few essential materials, is three times less expensive than giving full hardware subsidy to pan level to the entire community. The cost of graded-subsidy programs varies depending on the makeup of the community and, in terms of total cost, generally falls between the other two subsidy models but was felt to provide increased equity in the allocation of resources. The inclusion of the cost of skilled labor as part of hardware subsidy packages (common in

most subsidy-based approaches) increases the cost of the program substantially.

Programs which focused on providing software support to achieve sanitation outcomes, such as CLTS, are more cost-effective alternatives. Analysis shows that through investing more time and resources in community mobilization, the cost of sanitation programs is considerably reduced as community resources are more effectively mobilized and the communities themselves become the main contributors to program outcomes.

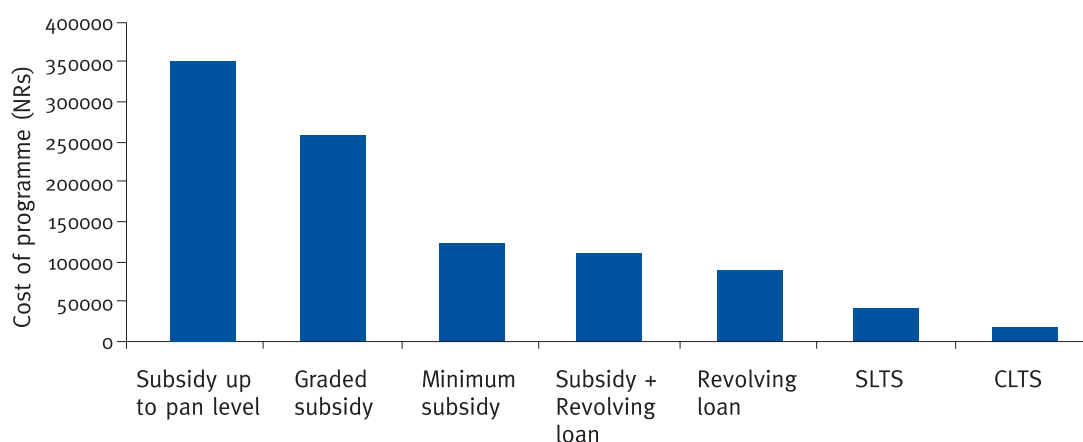
As mentioned above, the time taken to achieve sanitation outcomes in a community significantly impact on the cost. The cost of those financing models that encourage a "sanitation surge" to achieve sanitation coverage quickly is shown to be relatively less than those approaches that take a number of years to achieve the same outcome. It should be noted that all approaches require follow up and longer-term support to ensure sustainable sanitation outcomes.

If subsidies are given, the level of resources required is beyond reach. Thus, it is important to keep in mind that the proper distribution of resources is actually crucial to achieving total sanitation coverage in rural Nepal.

4.1.3. Large Disparity in Hardware Cost But Minor One in Software Cost

The balance between the software and hardware costs of the main models also varies enormously. Hardware and software costs are calculated only at the community level, i.e., the costs borne by the international, national, and local agencies was not considered because of difficulties in ascertaining the amount spent for a specific project. In this analysis hardware costs include materials and labor subsidized by the donor, while software costs include the cost of training given to users' committee and community people, IEC materials, salaries of staff recruited from within the community, and cash rewards given to the committees for sanitation activities.

FIGURE 12. The comparative cost of sanitation financing modalities in an example Nepali community of 99 households (33 ultra poor, 33 poor and 33 medium)



In rural areas of Nepal, around 11 million people do not have access to a latrine facility (NDHS 2006); in 2004 around \$1 million per year was available to increase sanitation coverage in rural areas (WAN 2004). The cost of providing sanitation coverage in all of rural Nepal using the most expensive modality is around \$121 million with subsidy up to pan level; using the cheapest modality (CLTS) it would cost \$5.8 million.¹² Hence, at current investment levels, using the subsidy up to pan level model, it would take around 121 years to achieve 100% sanitation coverage; using CLTS it would take almost 6 years.

Most approaches spend larger amounts on hardware than software; only CLTS and SLTS invest more resources in software activities than in hardware. The CBWSSSP (subsidy plus revolving loan model) invests approximately the same amount in software as in hardware. The rest of the approaches allocate more than 65% of the project resources to hardware, with the subsidy up to pan level approach being the extreme case with more than 95% of the total cost spent on hardware (Figure 13).

¹² Exchange rate 1US\$=NRs.65 and average family size of 5 households.

While total hardware cost broadly varies between approaches, total software costs are broadly similar, with those programs relying exclusively on software provision not showing higher investments on software activities compared to other models. For example, CLTS and SLTS show lower levels of investment in software activities than other models providing hardware subsidies (Figure 14).

perhaps in the form of salaries for a non-community-based health and sanitation professional-this is not captured in the analysis. However, observation made of different program approaches and during the field visits showed that most implementing agencies had allocated similar levels of their own human resources to support the program implementation. Cost, however, may vary depending on whether the

Balance between software and hardware cost of main sanitation modalities

FIGURE 13: Percentage (%)

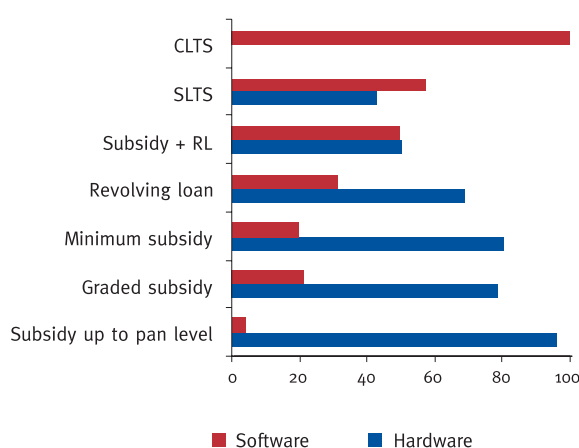
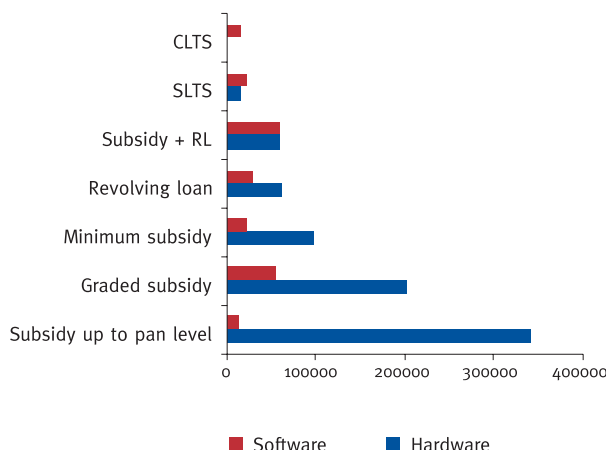


FIGURE 14: Absolute cost (NRs.)



The broadly similar total costs can be explained by the fact that most programs have similar software packages, with software costs being made up of staff salaries and IEC materials. However, what varies between programs is the emphasis that different approaches place on software and therefore the number and type of software activities undertaken. Those programs with high hardware support use this as the major tool for motivating communities to build latrines, whereas those programs which do not allocate financial resources for hardware have to place increased importance on effective community mobilization through software activities. CLTS and SLTS have demonstrated that, once initial investment is made in training local staff and IEC materials, additional community activities are not costly but can significantly impact on reducing hardware costs in the program and on achieving sanitation outcomes.

It should be borne in mind that this research has only considered the software cost directly given to, or expended by, the community. As a result, if an approach requires the implementing agency to expend significant additional resources on software-

staff employed were receiving salaries and benefits from local, national, or even international NGOs.

4.1.4. Varying Levels of Community Contribution

In all financing models evaluated in this study, some level of community contribution was required to complete latrine construction. In some models (such as subsidy up to pan level), only construction of superstructure was required, but in others (such as the revolving loan approach, SLTS, or CLTS) the entire latrine was financed by the benefited households. In NEWAH's graded-subsidy approach, in addition to the labor that households had to contribute to build that latrine, they were also required to pay a contribution to receive their sanitation materials and skilled labor support. Moreover, the range of technological options promoted and the availability of materials also determine the level of investment required.

The average cost of the latrines constructed in different programs was found to range between NRs700 and almost NRs9,000 in hill programs and between NRs1,500 and NRs7,000 in tarai programs.

TABLE 6: AVERAGE HOUSEHOLD CONTRIBUTION TO LATRINE CONSTRUCTION IN DIFFERENT PROGRAMS

6.1 HILL PROGRAMS

		HARDWARE SUBSIDY PAN LEVEL CECI	GRADED SUBSIDY HELVETAS	MIN SUBSIDY RRN	SLTS- NRCS UNICEF
Average Household Financial Investment ¹³	NRs	6,250	1,525	4,420	713
	% of total	71%	44%	81%	100%
Total average cost of the latrine	NRs	8,750	3,440	5,420	713

6.2 TARAI PROGRAMS

		HARDWARE SUBSIDY PAN LEVEL CARE	SUBSIDY NEWAH	GRADED LOAN RWSSFDBP	REVOLVING CBWSSSP	GWS STEPWISE APPROACH	CLTS PLAN	SLTS- WHO
Average Household Financial Investment ¹⁴	NRs	451	2,671	7,385	2,805	4,471	1,500-3,000	1,850
	% of total	11%	54%	100%	64%	100%	100%	100%
Total average cost of the latrine	NRs	3,951	4,898	7,385	4,380	4,471	1,500-3,000	1,850

It is important to bear in mind that the cost of constructing a latrine depends to a large extent on the type of technology and materials promoted, geographic context (tarai or hilly), and transportation cost, which is normally related to the location of the community from the markets. The average amount spent by each household to construct latrines also shows strong variations, from NRs700 in the SLTS implemented by UNICEF to more than NRs7,000 in the Fund Board project (Table 6). In addition, the variation in the cost of latrines is directly linked to the amount of subsidy provided or funds in the form of credit made available to a household, as well as the household's ability and desire to invest in sanitation.

Household financial investment by the ultra-poor households was found generally to be low or even nil in some cases. Many ultra-poor households construct the latrine with the hardware subsidy received from the support organization and complete the superstructure of the latrine with nonfinancial or locally sourced materials. Poverty, lack of hygiene awareness, or the hope of receiving a subsidy from other programs may be the cause of reduced household investment. The season when a sanitation program is launched is also likely to determine the level of household contribution. After harvesting, many households have more finance and time available, which is likely to result in construction of higher quality latrines.

4.1.5. Materials Procurement

Most sanitation programs incorporate some strategy to facilitate access to the materials required for latrine construction. In rural areas, those materials are sometimes far from the communities, and this might become a barrier to construction, maintenance, and upgrade of latrines. In the past, materials have been procured by the supporting organizations; but increasingly this responsibility has been handed over to the users themselves. Other initiatives-such as the production of certain materials locally or supporting sanitation centers through loans and subsidies-have brought material procurement closer to the point of use, resulting in the increased availability, and often reduced cost, of materials. Allocating financial resources to local sanitation centers to supply materials is evidence of a shift in the distribution of sanitation subsidies from the consumer to the producer. This arguably demonstrates a change in the motivation for, and objective of, the use of subsidies, from a tool used to encourage individual latrine construction to one that stimulates the supply of sanitation materials for a whole community.

With the community themselves in charge of material procurement, some financing models have advocated for community procurement of essential materials over individual procurement. In addition to increasing a sense of community action and ownership, this has enabled economies of scale and increased purchasing power from local markets as well as decreased transportation costs, and has

¹³ Labour and time invested by the household to construct the latrine are not considered.

¹⁴ Labour and time invested by the household to construct the latrine are not considered.

proved effective in many cases. However, in a few instances it has resulted in less flexibility in latrine

options and led to the exclusion of poorer households who were unable to afford the standard set of latrine materials and therefore could not participate in community procurement initiatives. This highlights the important issue of the promotion of a wide range of latrine options which are affordable and appropriate to different socioeconomic groups.

In the tarai, having to line latrine pits to prevent them collapsing and to reduce groundwater pollution increases the cost of material required. In contrast, transportation costs are frequently higher in remote hill areas. The cost of superstructures also varies depending on the ecological area and the availability of local building materials. In most financial models superstructures are constructed by owners of the latrines using local materials. The assumption that local materials are available and free of cost is not always accurate. In the tarai many households construct superstructures with grass, hay, bamboo, and/or mud. These materials might be free from financial cost, but procuring them has a time and labor cost for the household, which will vary depending on their proximity. Access to a forest, where many of these materials might be sourced, could entail a fee as it might fall under community or local government management.

In hill areas, stone is commonly used to build permanent superstructures, but despite often being readily available the associated cost of quarrying and carrying stones is normally high. Sand can normally be acquired without a financial cost; but again most households need to invest their time to transport the sand. Limited access to local materials or the inability to meet the expense of the required unskilled labor induces poor households to use plastics, cloth pieces, and even cardboard to build their superstructure, which results in very temporary superstructures prone to damage in the short term. Therefore, these households will likely need to invest additional time and labor in repair and maintenance of their superstructure.

4.1.6. Financial Burden of Latrine Construction

For many households unable to meet basic needs, borrowing money from outsiders is becoming a common practice, as well as an increasing burden. Among those households interviewed which had built a latrine recently, 39.7% had taken some form of

loan to achieve this. In only 6.9% of the cases the loan was a revolving loan from the current sanitation program; in most cases (96.6%), households borrowed money from private moneylenders, relatives, or saving groups outside of any mechanism established by the sanitation program.

In the project visited, those households taking funds from private moneylenders were paying interest rates ranging from 12% to 36%. Saving groups were also found in most villages where sanitation programs had been implemented. Interest rates offered by saving groups were found to be fairly high, ranging from 24% to 36%, and as a result only in a very few cases were households found to be borrowing money from saving groups to build latrines.

Because of the high rate of interest, return periods are mostly relatively short and are fixed for only a few months after the loan is taken, therefore leading to tolerable interest increments. Problems occur when households fail to repay the loan; as a result, interest rates and the accumulated debt increase exponentially, causing significant tension among borrowers. Partnerships between sanitation programs and existing saving groups were not found in any of the project sites visited, but these could enable some control on high interest rates and more favorable conditions, and in doing so give increased access to financing.

4.1.7. Income-Generating Opportunities of Sanitation

On the reverse side, sanitation activities provide the opportunity for income generation, and some sanitation programs implemented by agencies such as CECI, Rural Reconstruction Nepal (RRN), or Fund Development Board have directly linked with income-generating programs. Poverty reduction and the increase in access to funds will enable communities to invest in basic services, such as sanitation. The generation of income is also crucial to enable households to take and repay loans to build latrines. A household which is unable to pay for a latrine now is unlikely to be able to pay in a few months unless some additional income is generated in the meantime. A healthy environment also generates extensive savings in medicines and time at the household level, and thus improved sanitation also has a positive impact on poverty reduction. Most households affirmed that since they built their latrine, they suffer less from diarrhea and similarly their expenditure in medicines has also been reduced.

The construction of latrines also results in new job opportunities being created in both the short and long term. Most sanitation programs train community members as sanitation masons, community mobilizers, or health promoters, providing them with new skills and providing an environment where those skills can be used.

Although most sanitation programs just address the safe disposal of feces and urine, where culturally acceptable these waste products can be used productively. Ecosan latrines, which turn human waste into fertilizer, enable farmers to save money and increase the quality of their crops. Similarly, setting up a kitchen garden with seasonable vegetables fosters reuse of wastewater and improves household food security.

4.2. Social Dimension

The criteria selected to evaluate the social dimension of the financial alternatives are principally based on the effectiveness of the approach to deliver sustainable sanitation services to the poor, and the level of inclusion and participation of the disadvantaged groups (women, the ultra poor, dalits, and the disabled) in the decision-making process and other program activities. Enhanced community unity is also considered a positive outcome of some sanitation interventions. The results of the evaluation of the social criteria are shown in Table 7.

4.2.1. Support for Disadvantaged Households

Poor households need to manage their limited resources carefully to ensure that they gain access to basic services. Despite improved sanitation having many positive impacts on the household and community, food, water, and shelter are generally higher priorities. In addition, household funds are often managed by the men in the family who give

less priority to sanitation than women. Ultra poor, disabled, and female-headed households are frequently incapable of building latrines without assistance, and therefore specific mechanisms to target these groups are required to ensure total sanitation.

The most common reasons behind the inability of ultra-poor households to build a latrine include

- lack of sufficient financial resources;
- lack of time (households cannot afford to stop work to build the latrine);
- lack of sufficient skills;
- lack of land and temporality of landless households; and
- lack of awareness of positive impacts of an improved sanitary environment.

Paradoxically, those households requiring and deserving the most support are often excluded from receiving additional support, such as subsidy benefits, because of a lack of proper understanding of their needs. In Garpan, where RRN was distributing minimum subsidies to all households, a few ultra-poor households could not build their latrine because there were no skilled members in the household. This situation is aggravated by the migration pattern found in many rural areas of Nepal, where (mostly) males leave their houses to work in urban centers and abroad. In Garpan, community members helped disadvantaged households to dig their pit but that support was not sufficient; ultra-poor households were unable to continue the construction of the latrine.

Some projects exclusively providing revolving loans or community awareness were also found to be somewhat ineffective in targeting the poorest section of the community. Similarly, the ultra-poor households either do not have access to or cannot afford loans, as they are unable to pay the amount back. Building a superstructure can be a burden to

TABLE 7. IMPACT MATRIX FOR THE SOCIAL DIMENSION

FINANCIAL ALTERNATIVES	SOCIAL CRITERIA		
	ADDITIONAL SUPPORT TO POOR HOUSEHOLDS	PROMOTION OF COMMUNITY UNITY	INCLUSION OF DISADVANTAGED
Full subsidy to pan level	More or less bad	More or less bad	More or less good
Graded subsidy	Good	More or less good	Good
Minimum subsidy	Moderate	Moderate	More or less good
Revolving loan	Bad	More or less bad	More or less bad
Subsidy plus revolving loan	More or less good	Moderate	More or less good
CLTS	Moderate	Good	Good
SLTS	Moderate	Good	Moderate

certain households, and therefore those households need special guidance and support to build it. Providing affordable latrine options for the poorest households is essential to enabling them to adopt hygienic sanitation practices. As a result of a lack of latrine options, the poor often don't build latrines or build unhygienic latrines.

Currently, most programs providing hardware subsidies support households to build hygienic latrines up to pan level. The remaining superstructure is the responsibility of the household, which is required to contribute all materials and labor. Although local material can often be used with relatively little expense, it is commonly assumed that the construction of superstructure can be easily carried out by the householders themselves. In Vijay Nagar (Tikapur-Kailali), one female-headed household had to wait 1 month until one of the woman's relatives could help her build the superstructure, as she lacked the appropriate capacity herself. Another female head of a household in the area claimed she was unable to repair damaged superstructure because of her extreme poverty.

Financing models are becoming increasingly flexible in order to respond effectively to the needs of the disadvantaged households. Some sanitation financing models, such as graded subsidies, give special support to the poor by making additional resources available to them. Proper classification of households in poverty categories is sometimes a challenging task since most households prefer to receive subsidies. Similarly, the CBWSSSP incorporates a subsidy provision to target ultra-poor households. However, the fact that no more than 10% of households can receive subsidies presumes that all communities are homogeneous, and does not recognize the fact that in some communities the poorest 20-50% might be equally poor. The practical implications of this rigid approach might cause confusion and conflict within a community.

Cross subsidy, i.e., the relatively better-off supporting the most disadvantaged households to build their latrines, is also a valuable and effective way of targeting the ultra poor and marginalized groups. Cross subsidies were found in Garpan, where RRN was providing minimum hardware subsidies and some members of the community helped the marginalized groups dig pits and carry required materials. CLTS and SLTS models also encourage the use of cross subsidies. To encourage members of the same community to provide assistance to those in need of help, it is first necessary to create an awareness of the

interdependence of households in achieving health outcomes. When sanitation is presented as a public good and not as an individual issue, the sanitation program usually results in enhanced unity among community members. Cross-subsidy brings community members together, and therefore the resulting benefits are far beyond the implementation of the program. Nevertheless, heterogeneity of communities and caste systems might hinder the successful performance of cross subsidies.

Even though there is flexibility, certain rigidities also hinder some programs from responding properly to local needs. Rigidities are commonly related to budgets and subsidies. Agencies are compelled to allocate a certain budget to each project. Usually the level of funds available for hardware is not decided by the implementer, or it is decided beforehand by the international or national agency sponsoring the program. In Ramghat, not all households could receive the hardware subsidy to construct the latrine up to pan level because funds allocated by CECI for that community were not sufficient to cover all households; in fact, some of the most disadvantaged households were left out of the program. However, in subsequent years CECI plans to increase the coverage to include the remaining households.

4.2.2. Inclusion and Active Participation of Disadvantaged Households

The needs of the disadvantaged households are more likely to be fulfilled when those households take an active part in decision making. For example, users' committees are usually responsible for setting their own rules about how to distribute revolving loans among the benefited households. In the Fund Board and SLTS programs, the community decide on the amount, interest rate, and period of revolving loans. The active participation of the disadvantaged households favors the equitable and inclusive distribution of funds.

In most schemes, female representation in the users' committee is notable, and is even higher than males in many cases. However, the top positions such as president, vice president, or secretary are still occupied by men in the great majority of cases. Inclusion of ultra-poor households in the users' committee obviously depends on the composition of each community, but in general their participation can be said to be low and that medium or poor households are better represented. In particular, the users' committee from the RWSSFDBP in Jutepani showed a remarkably low level of empowerment of disadvantaged households.

Sanitation programs usually offer jobs and skill development opportunities to some members of the community, such as community health volunteers (CHVs), caretakers, and masons. Another way of promoting inclusion consists of offering the paid jobs or skills development training to those most in need so their poverty can be alleviated. Nevertheless, only a few agencies-such as RRN, NEWAH, Plan, and CECI-were found to be giving paid jobs or skills development training to ultra-poor households.

4.3. Sustainable Total Sanitation Dimension

The sustainable total sanitation in a community is measured in terms of the durability of the intervention outcomes and long-term benefits for the environment. Whereas the first two dimensions look at the inputs of the different models, this dimension reviews the outcomes of the models. As a result, the figures for construction of hygienic latrines, latrine coverage, and use of latrines were used as the main indicators to evaluate the sustainable total sanitation dimension (Table 8).

4.3.1. Unhygienic Latrines are Widespread

According to the NDHS from 2006, in rural Nepal 33.8% of the people have a non-shared sanitation facility whatever the quality, and as many as 12.3% people have an unhygienic facility. This data reveals that four out of every 10 households with a latrine have a non-improved or unhygienic facility.

Those households lacking sufficient economic resources or knowledge and skills to construct a hygienic latrine are likely to construct a non-improved sanitation facility, such as direct pit latrines without a slab, or open pits. Unhygienic

latrines without a water seal attract flies, generate bad smells, and are likely to become full quickly and cause contamination of surrounding water sources. In Gumjanagar, where Nepal Red Cross Society (NRCS) was implementing the School Sanitation Health Education (SSHE) program, very poor people had constructed unhygienic latrines which were not used because they had been flooded during the rainy season.

Financing models-such as CLTS, SLTS, or minimum subsidy-that give little or no financial support to build latrines generally incorporate strategies to encourage households to build hygienic latrines. Guidance and facilitation during latrine construction are crucial components of these programs. The programs are based on the principle that latrines should last long enough to habituate community people to latrine use, and thus they prioritize the rebuilding of the latrine rather than defecate in the open. Construction of relatively good superstructures was also found to be important because very temporary superstructures are prone to damage, and from a dignity point of view they might not ensure adequate privacy for the users, thus reducing the likelihood of use. Where increased community awareness activities had been undertaken, community members were noted to more likely maintain and upgrade temporary latrines.

Latrines built with hardware subsidies are generally very good up to pan level, as they are built by subsidized skilled masons. However, as will be explained in the following section, in those programs hygiene awareness and a feeling of ownership are sometimes lower, and therefore it is common to find latrines that are not in use and/or fall into disrepair.

TABLE 8: IMPACT MATRIX FOR THE SUSTAINABLE TOTAL SANITATION DIMENSION

FINANCIAL MODALITIES	SUSTAINABLE TOTAL SANITATION CRITERIA		
	HYGIENIC LATRINES	TOTAL COVERAGE	USE OF LATRINES
Full Subsidy to pan level	Good	Moderate	More or less bad
Graded subsidy	Very good	Good	Good
Minimum subsidy	Good	More or less bad	Moderate
Revolving loan	Good	More or less bad	Moderate
Subsidy + Revolving loan	Good	Moderate	Moderate
CLTS	Good	More or less good	Very good
SLTS	More or less good	Moderate	Very good

4.3.2. Achieving a Common Sanitation Goal

In rural areas of Nepal, changing traditional habits is not an easy task as many people, especially the elderly and men, simply prefer to defecate in the open. During focus group discussions, community people from many different villages stated that it had been hard to convince old people to change their habit of defecating in the open. Effective mobilization of the community to achieve the common goal of total sanitation has ensured long-lasting results in terms of use compared to other models promoting "latrinization."

The mobilization approaches used in CLTS and SLTS focus on collective action and stopping open defecation practices. In the communities where CLTS and SLTS were introduced, latrine use was very satisfactory, while latrine coverage was not always high. In Jagatpur (Chitwan), the area had been declared open defecation free (ODF) through SLTS, despite 24% of the households not having a latrine. Those households without a latrine were using relatives' and neighbors' latrines; as a result, hygiene conditions of the area had remarkably improved.

Thus, use of latrines and sanitation coverage are not necessarily correlated. Latrines might be used by everybody in the community while latrine coverage is less than 100%, and latrine coverage might be 100% and use of latrines might be below 100%. In Vijaya Nagar (Tikapur-Kailali), high hardware subsidies were provided by Care to build offset pit latrines up to pan level. Every household received the sum of NRs3,500 to cover all the costs of materials and skilled labor. Superstructures were built by the householders themselves, but several were found to be damaged at the time of the field visit, which resulted in useless latrines and householders practicing open defecation once again (Figures 15 and 16). The level of ownership feeling, hygiene awareness, and habit creation will determine whether households upgrade and repair the damaged superstructure.

4.3.3. Procurement and Availability of Materials Promotes Sustainable Sanitation Outcomes

In rural villages located far from urban centers and markets, availability of materials may become a significant barrier to the upgrade or repair of latrines. Subsidized materials are sometimes procured by the local or national nongovernment organization (NGO) implementing the program. This practice may impede further repair or upgrade of the latrine due to restricted access to the required



Figure 15. First-class latrine up to pan level, but not in use.

materials, as most subsidized materials are not sourced locally. In recognition of this fact, in several programs the responsibility for procuring all materials is handed over to the same community. This is a core principle of community-led interventions such as CLTS. In addition, with the intention of favoring materials available locally, the following practices are being encouraged.

- Production of a series of latrine designs involving the use of available materials.
- The establishment of sanitation centers where latrine components can be purchased at affordable prices.
- Production of certain components locally.

Only NEWAH and PLAN were found to promote the above-mentioned practices, with rings for pit lining

Figure 16. Damaged superstructure



being produced locally during project implementation. Most agencies set up temporary project-financed production centers rather than sustainable supply chains through the local private sector. The supply side of sanitation programs still needs to be further improved.

4.4. Integrated Ranking of Financing Models

The results from the multi-criteria analysis are presented in Figure 17. The first index shown is the strength index (F+), which ranks the different financing alternatives from the best one to the least good; the second index is the weakness index (F-), which ranks the alternatives from the least worst to the worst. The graph is obtained from the intersection of both indexes. The ranking of alternatives obtained from the aggregation of the analyzed criteria shows that CLTS is the model that scores highest against the criteria set, followed by SLTS.

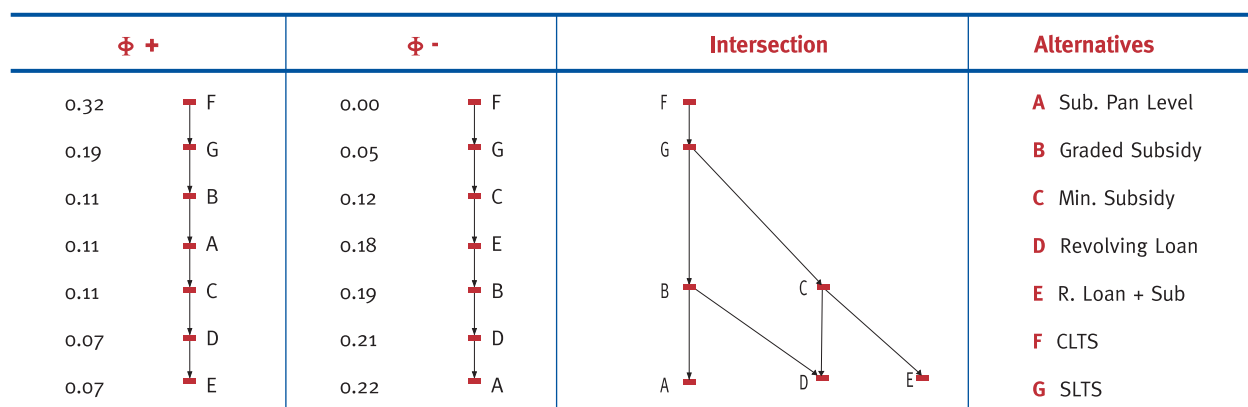
CLTS and SLTS involve low cost for the donor and enhance community contribution and mobilization. Emphasis on stopping open defecation and presenting sanitation as a public good ensured effective behavior change and improved community unity in addressing sanitation. Both models encourage the provision of cross subsidies among community members in order to address the additional support required by disadvantaged households. Thus, despite financial support not being provided, the disadvantaged households are targeted through collective community action. In addition, sanitation is looked at from a community outcome perspective, not by the number of latrines built. It should be stressed that for CLTS and any

community-awareness approach to be successful, it is reliant on effective community mobilization, and this requires skilled local facilitators. This may be a barrier to taking such an approach without significant investment in human resource development and training.

Graded-subsidies models delivered sanitation services effectively to all members of the community; at the same time a feeling of ownership was properly developed, partially because of the obligation to contribute a certain sum to receive the hardware subsidy. However, the cost of these programs is significantly higher than those approaches which maximize the community contribution.

The cost of programs offering subsidies up to pan level is up to 30 times higher than community-led interventions, and even though latrine coverage is generally good, latrine usage is not always that encouraging. Approaches making use of revolving loans enable increased community contributions and have resulted in the construction of quality latrines. However, revolving loans often fail to reach the poorest households, with many low-income households unable to afford loans. As a result, ODF status is rarely achieved. Although it is recognized that the mixed approach adopted by the CBWSSSP (simultaneously promoting self-finance latrines, a hardware subsidy, and revolving loans) is relatively new and has yet to be seen at scale, it was observed that community people had to wait to receive financial support, and consequently they did not get into action jointly and promptly. Again, achieving the public health outcome which derives from stopping open defecation practices appears to be a long-term mission when the three financing tools are simultaneously offered to the communities.

FIGURE 17. Multi criteria Analysis Results with Simple Product



5. Recommendations

5.1. Financing Models Should Focus on Achieving Community Outcomes

Financing models designed to promote and encourage the achievement of community outcomes, such as ODF status, were observed to be effective in delivering sustainable sanitation coverage in rural communities. Field evidence showed that focusing on stopping open defecation, rather than constructing individual latrines, brought about superior use of latrines and therefore superior health and sanitation benefits to the whole community. From the financing perspective, this means that financial support should reflect this approach, with resources being targeted at community activities such as mobilization and training, and community outcomes, i.e., rewarding community sanitation outcomes rather than supporting individual latrine construction.

If the whole community is strongly mobilized to achieve the public good of total sanitation, greater involvement and a higher level of contribution, both in cash and kind, from the community are generated. In turn these foster increased ownership among the members of the community, ensuring commitment from everyone to build, use, and maintain their latrines in the long term. Financing models that provide rewards and formal recognition of achievements to the entire community, rather

than providing up-front support to households, can be used as valuable motivational tools to achieve sanitation outcomes.

5.2. Accessing Financial Support

5.2.1. Poor and Marginalized Groups Need Additional Support

Households made up of the very poor or marginalized groups, or those headed by a female generally require additional support to build their latrines. Most disadvantaged households lack sufficient financial resources and many also lack the skills to undertake latrine construction. As sanitation is best addressed at a community (not household) level, identification of those households in need of additional help is an essential part of developing an adequate community strategy to target them and achieve a community sanitation outcome. A participatory process, with mechanisms to increase transparency, needs to be encouraged to ensure successful identification of disadvantaged households and allocation of additional support, whether that is in cash or kind.

When sanitation is understood as a public good, cross subsidies become a natural part of any community plan to achieve ODF status, and a graded system of support or subsidies can ensure

that everybody in the community can construct a hygienic latrine. Flexibility in the latrine options being promoted will also enable the poorest households to access sanitation facilities. Pushing a single model, which is often financially and technically out of reach of the poorest households, can result in some groups being excluded from the process. Following some basic principles, hygienic latrines can be built with minimal financial cost and then improved over time once further resources become available.

5.2.2 Improved Access to Institutional Microfinance Facilities

It was found that a large number of households take loans from different sources to complete latrine construction. Loans become a burden for many people, as failure to repay results in interest increasing rapidly. In addition, many poor households refuse or are unable to take loans because of their inability to repay them. There is a need to link sanitation programs with banks and other institutions, such as saving groups, to give everybody the opportunity to access affordable microfinance. In light of the public-good nature of improved sanitation conditions, partnerships with existing saving groups (offering special terms and conditions to those households borrowing money to build a latrine and giving special consideration to poor families) could be an effective means of supporting the financing of sanitation.

5.3. Increased Sector Coordination

5.3.1. Reduced Overlap of Programs Promoting Different Financing Models

Many agencies are working in the sanitation sector in Nepal, but their distribution around the country does not always reflect actual areas of need. It is not rare to find two agencies working simultaneously in the same area, which usually means implementation of two different approaches. There is often a lack of appreciation for the impact of the implementation of divergent financial models in one area on delivering sanitation more broadly.

At the VDC level, Khairanitar and Bandipur failed to declare their VDCs ODF, which was partially due to multiple approaches. There are further examples concerning multiple approaches at the community, VDC, and district development committee (DDC) levels. In Chitwan, a program to achieve total sanitation by 2009 is being implemented and efforts were made to coordinate agencies working

in the district; despite this, examples of overlap were still found. In Jagatpur (Chitwan), the DWSS and WHO, in partnership with a local NGO, were implementing SLTS without providing any financial support for latrine construction. At the same time, Jagatpur VDC was giving hardware subsidies to ultra-poor households. The combination of both strategies facilitated the construction of latrines among ultra-poor households, but many other households in the community still do not have a latrine.

Overlapping approaches was also detected in Jutpani (Chitwan), where the RWSSFDBP was being implemented. The Fund Board made available a revolving loan of NRs2,000 per household, but in the same area the Bote Society supported by Nepal Aadiwasi Janajati Sangh was providing a NRs2,900 subsidy in cash to build latrines. As a result, most Janajati households in the community were indifferent to the committee formed by RWSSFDBP and rarely cooperated with the rest of the community. These dual approaches destroyed one of the key elements of successful sanitation support-community unity.

High subsidies given in some programs may disrupt those programs intending to reduce or eliminate the amount of hardware subsidy granted to every household. Community people, obviously, prefer to receive high subsidies. In Garpan (Surkhet), RRN was piloting several financing models (full subsidy, minimum subsidy, and CLTS) in neighboring communities. The proximity of the communities caused disappointment in some households as soon as they discovered they were given fewer subsidies than their neighbors. Community mobilizers had to make a greater effort to convince community people to actively participate in the program which offered reduced subsidies.

In Kapilbastu, the CBWSSSP faced difficulties in implementing its health and sanitation program because of dual approaches. The Poverty Alleviation Fund (PAF) was giving high subsidies (NRs10,000 in cash to build latrines) while the CBWSSSP expected a much higher contribution from the community. Community people frequently declared "we don't want to take the NRs3,000 from the CBWSSSP. We'd rather wait until the PAF comes to our area." The situation was aggravated by a lack of information. The engineer from the CBWSSSP unit office stated that "PAF does not inform the DDC, and therefore we do not know where they are working and we cannot plan accordingly."

Overlapping approaches is common in rural Nepal, and this has proved to reduce effectiveness of programs. Although one single approach to financing sanitation might not be appropriate across Nepal, and therefore a variety of approaches might be promoted nationally, at the district and certainly VDC levels increased consensus needs to be achieved between agencies as to the approach to be promoted to achieve total coverage in one area. Available financial resources to promote sanitation are scarce; therefore sector stakeholders should maximize the limited funds and avoid program overlap.

5.3.2. Increased Local Planning and Coordination Among Stakeholders

Coordination of sector stakeholders and proper planning are urgently needed to avoid duplication of effort and allow effective sanitation promotion in one area. The 1994 National Sanitation Policy refers to the obligation of establishing a district-level coordination committee chaired by the local development officer in every district. However, DCCs are only functional in a very few districts. The Rural Water Supply and Sanitation National Strategy 2004 also mentions that the coordination of sector stakeholders is to be led by the local government bodies (LGBs), stating that "DDC/VDC will coordinate and monitor the international NGOs, Rural Water Supply and Sanitation Development Fund and other sectoral development programs at VDC and district level."

Effective planning is also crucial to meet the national and international sanitation targets, and LGBs should be at the forefront of this task. The current water supply and sanitation policy specifies that "Planning will be done in coordination with DDC/VDC to avoid duplication and optimize the use of limited resources." In the new policy, decentralization is also promoted to transfer major responsibilities for operation and maintenance of water supply and sanitation schemes to LGBs and/or Water and Sanitation Users Committees. The DWSS is to gradually hand over the responsibility of implementing and managing rural water supply and sanitation schemes to the DDCs.

Adequate information management is essential for planning and identifying the areas that require major assistance. In this sense, the Rural Water Supply and Sanitation National Strategy 2004 mentions the obligation of DDCs to prepare and update the District Water Supply and Sanitation Profile with details on status, cost, operation and

maintenance, and responsibilities of every scheme. Moreover, a plan of action is to be developed to identify priority areas and required actions. Such a plan has already been developed in some districts, such as Dhading, but often implementing agencies ignore these plans.

All organizations implementing sanitation programs at the community level should seek permission from the DDC and VDC to select and implement their programs. In fact, the current national water supply and sanitation policy mentions that "Projects will be selected (for implementation) on the basis of projects prepared by the local bodies." However, too frequently LGBs are not even informed about the implementation of a particular sanitation program in their area. Most agencies inform DDCs about program activities but forget to seek permission from the VDC as well. Conflict has made the communication task impossible in certain areas, but in other areas VDCs are operative and yet are still ignored. Informing the DDCs and VDCs about implementation of programs would facilitate coordination of approaches and avoid duplication of effort. Actually, the inclusion of development programs in the annual plan of the DDCs and VDCs should be made mandatory for all agencies. In Tanahu DDC, for example, all agencies working in the district are compelled to appear in the annual plan from 2008.

Whereas communication with VDC needs to be consolidated, partnerships with LGBs need to be strongly reinforced. Although some agencies get their program activities incorporated into the district plan once they have selected their working areas, very few programs seek VDC support to implement sanitation activities. In SLTS and SSHE, school latrines are usually built with partial support from the VDC. The Sectoral Strategic Action Plan of the Rural Water Supply and Sanitation Policy 2004 stipulates that water supply and sewerage division or subdivision offices should allocate 10% of the total annual budget for running sanitation programs to places where water supply projects have been completed and ownership transfer has taken place.

Similarly, the draft of the 2004 National Hygiene and Sanitation Strategy states that "District level agencies should allocate at least 10% of the annual water and sanitation budget for implementation of stand-alone hygiene and sanitation programs based on Basic Sanitation Program and School Sanitation and Health Education Program" and in addition "a minimum of 20% of the cost of water supply and

sanitation project will be allocated for hygiene and sanitation program." However, existing practices of implementing agencies and a lack of a clear plan at the district level result in these resources not being mobilized or capitalized upon. New sector policies aim to stimulate greater investment in sanitation activities by LGBs, which if properly coordinated should enable further resources to be effectively invested in achieving sanitation outcomes.

5.3.3. A National Sanitation Program Should be Developed

Field realities show that greater harmonization of financing sanitation models and more efficient distribution of available resources are needed. Surprisingly, discrepancies in approaches between the same donor is also common. For example, the UK Department for International Development has been funding NEWAH and Gurkha Welfare Scheme (GWS), and the World Bank is funding the Fund Board and PAF, and they all implement very different approaches. At the national level, concerned stakeholders should work jointly to

prepare a national sanitation program, so that all efforts are concentrated in the same direction. According to the Rural Water Supply and Sanitation National Strategy 2004, a sectoral stakeholder group coordinated by the sanitation coordination committee is to be formed to formulate sectoral policy and coordinate sectoral activities. Thus, the sectoral stakeholder group appears to be the appropriate institution to lead the development of the national program and to seek compromise from, and conformity of, all concerned organizations.

A national sanitation program, although coordinated at the national level, could then be facilitated and overseen at the district level by the district coordination committee according to a clear district plan. As proven by successful experiences in India and Pakistan, the use of incentives by national governments for achieving sanitation outcomes at a district (or even VDC) level is an effective use of resources as it stimulates LGBs to coordinate and focus on sanitation activities.

6. Conclusion

Numerous agencies are involved in the important task of delivering sanitation services in rural areas of Nepal. Table 8 sets out the broad approaches that are currently being implemented.

Hardware subsidies are preferred by most implementing agencies, and indeed most beneficiaries, but the provision of heavily subsidized latrines results in limited sustainable sanitation outcomes at the community level in too many cases. In addition, subsidies have seen costs increase dramatically and

local resources are not effectively mobilized. Revolving loans reduce the cost of the intervention to the implementing agencies substantially, but they frequently fail to reach the poorest households, result in debt, and take a long time to achieve ODF status as they are too often focused on household-not community-outcomes.

Those financial models that support and promote community sanitation outcomes, such as CLTS and SLTS, have proven to be very effective in speeding

TABLE 9. BRIEF DESCRIPTION OF MAIN SANITATION MODALITIES

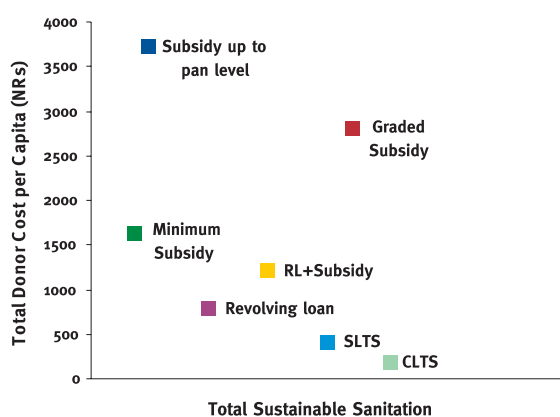
FINANCING MODALITY	DESCRIPTION	STRENGTHS AND WEAKNESSES
Hardware subsidy up to pan level	<ul style="list-style-type: none"> ■ Provision of subsidized materials and skilled labor to all households 	<ul style="list-style-type: none"> ■ Inhibits ownership feeling ■ Low level of latrine use ■ High cost for the donor ■ Failure to achieve Community ODF status
Graded subsidy	<ul style="list-style-type: none"> ■ Classification of households in well-being categories ■ Provision of materials and skilled labor upon the payment of a predetermined amount based on the well-being categories ■ Ultra-poor households are exempt from paying 	<ul style="list-style-type: none"> ■ Effective are targeting disadvantaged households ■ Ownership is somewhat ensured ■ High cost for the donor ■ Failure to achieve Community ODF status
Minimum subsidy	<ul style="list-style-type: none"> ■ Provision of few essential, nonlocal materials to construct latrines ■ Cross-subsidies are sometimes encouraged 	<ul style="list-style-type: none"> ■ Moderate cost for the donor ■ Failure to achieve Community ODF status

Contd...

TABLE 9. BRIEF DESCRIPTION OF MAIN SANITATION MODALITIES (CONTD...)

FINANCING MODALITY	DESCRIPTION	STRENGTHS AND WEAKNESSES
Revolving loans	<ul style="list-style-type: none"> Community receives a revolving loan fund to be distributed among community members to support latrine construction. The fund is calculated in proportion to the number of households without latrine Only some households can receive the loan in the first round The fund is revolved until all households have built their latrine 	<ul style="list-style-type: none"> Moderate cost for the donor Ownership feeling is ensured Fails to reach the poorest, ultra poor households are unable to take the revolving loan Long implementation periods Failure to achieve Community ODF status
Revolving loans + hardware subsidy	<ul style="list-style-type: none"> Community receives a revolving loan fund to be distributed among community members to support latrine construction. The fund is calculated in proportion to the number of households without latrine. The ultra poor households receive hardware subsidy to build latrines The rest of the households are expected to build latrines from self-finance 	<ul style="list-style-type: none"> Moderate cost for the donor Disadvantaged households are targeted Disincentives self-initiation latrines Failure to achieve Community ODF status
CLTS	<ul style="list-style-type: none"> Community is mobilised to achieve the public good of achieving "Open Defecation Free" status Strong facilitating and ignition process Cross-subsidies are encouraged 	<ul style="list-style-type: none"> Low cost for the donor Promotion of community union and inclusion of disadvantaged households Community ODF status achieved High use of latrines
SLTS	<ul style="list-style-type: none"> School is the entry point of the sanitation program Community is also mobilised to achieve the public good of achieving "Open Defecation Free" status Cross-subsidies are encouraged Rewards or revolving loan fund is made available to promote the achievement of "ODF Status" 	<ul style="list-style-type: none"> Moderate cost for the donor Promotion of community union and inclusion of disadvantaged households High use of latrines Continuation of the program in the long term

FIGURE 18: Total Donor Cost per Capita vs. Sustainable Sanitation Outcomes



up sanitation coverage as they look beyond the individual household latrines and focus resources on encouraging collective action. Although it is recognized that the context in Nepal is diverse and different approaches may suit specific environments, these two models-which involve lower subsidies and increased community contribution-have proved to be the most effective against the socioeconomic and sustainable total sanitation criteria.

What Table 8 does not present is the impact of this number of sanitation approaches being implemented in parallel to one another. The financing models that each organization have adopted are diverse and contradictory in their approach to achieving sanitation coverage. Despite

this they are often implemented alongside each other, resulting in conflict between communities and a hampering of community initiative and innovation. A more structured approach to the financial support provided to rural communities is required to ensure communities work together to achieve sanitation outcomes, not compete for resources to address individual sanitation needs.

Financial resources available to promote sanitation are limited, and therefore their effective and efficient allocation is crucial in order to move swiftly toward total sanitation in rural Nepal. One means of increasing coordination in the sector would be for

the central government to offer incentives to encourage involvement of LGBs in achieving sanitation outcomes, such as ODF status, in their areas of influence. Better planning and coordination, as well as allocation of major resources, are needed to successfully move the country toward total sanitation. This would be aided by the joint efforts and increased collaboration of all sector stakeholders, both at the national and local levels. Thus, the current International Year of Sanitation is a perfect opportunity to bring together all sector stakeholders to develop a credible sanitation master plan and generate political will from government and donors to raise the required funds to support it.

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