WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

REGIONAL CONSULTATION ON NEW APPROACH TO SANITATION

POKHARA, NEPAL
17-19 November 1998

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet
03 November 1998

LIST OF DOCUMENTS

1. **Specific Objectives**

2. **Tentative Agenda**

3. **List of Participants**

4. **Background Information**

5. **Brief Papers**

   5.1 Strategy on Sanitation for High Risk Communities
   5.2 Draft Framework for Action on New Approach to Sanitation

6. **Country Reports - to be presented by respective delegations**

   6.1.1 Bangladesh
   6.1.2 Bhutan
   6.1.3 DPRK
   6.1.4 India
   6.1.5 Indonesia
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   6.1.8 Nepal
   6.1.9 Thailand
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   Case Studies (included, wherever received)

   6.2.1 Bangladesh
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   6.2.6 Maldives
   6.2.7 Myanmar
   6.2.8 Nepal
   6.2.9 Thailand
   6.2.10 Sri Lanka

7. Key Reference Documents (Provided separately)

7.1 The PHAST Initiative – A new approach to working with communities: WHO/Geneva and UNDP-World Bank Water and Sanitation Programme (WHO/EOS/96.11)

7.2 PHAST Step-by-Step Guide: A participatory approach for the control of diarrhoeal disease: WHO/Geneva, SIDA and UNDP-World Bank Water and Sanitation Programme (WHO/EOS/98.3)

7.3 Sanitation Promotion: Water Supply & Sanitation Collaborative Council, WHO/Geneva (WHO/EOS/98.5)

8. Additional Reference Materials (Provided separately)

8.1 New Directions for Hygiene and Sanitation Promotion: WHO/SEARO (WHO/CWS 93.8)

8.2 Ecological Sanitation: Steve Esrey et al, SIDA, 1998

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REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/1
12 November 1998

OVERALL OBJECTIVE

Reorientation of national programmes for incorporating new sanitation strategy in National Sanitation Programmes.

SPECIFIC OBJECTIVES

(1) To familiarize all the participants with the strategy for sanitation for high risk communities, and important new documents that can support this strategy on sanitation, Participatory Hygiene and Sanitation Transformation (PHAST), Sanitation Promotion and Ecological Sanitation.

(2) Share country experiences and case examples of successful approaches to sanitation.

(3) Review and finalize Framework for Action for Implementation of Sanitation Strategy for high-risk communities.

(4) Identification of follow-up action at country level.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/2
05 November 1998

TENTATIVE AGENDA

Tue, 17 Nov 1998	0830-0900	Registration
	0900-0930	Inauguration:
		- RD's Message
		- Address by HMG's Representative
	0930-1000	TEA/COFFEE
	First Plenary Session	
	1000-1010	Introduction of participants; nomination of Chairperson & Rapporteur; Announcements – Mr J.C. Pospisilik
	1010-1025	Objectives of the Consultation & Programme of events - Mr J.C. Pospisilik
	1025-1045	Presentation – Strategy on Sanitation for High Risk Communities – Ms Mayling Simpson-Hebert, WHO-STC
	1045-1100	Presentation – PHAST Initiative Introduction (Publications 1 & 2 distributed) - Mr Han Heijnen
	1100-1115	Sanitation Promotion (already distributed) – Mr J.C. Pospisilik
	1115-1130	Gender Issues in Sanitation – Ms Eveline Bolt, IRC
	1130-1200	Discussions
		LUNCH
	1300-1430	Presentation of Case Studies
	1430-1500	TEA/COFFEE
	1500-1630	Country Reports presentation (10 reports – 5 minutes for each country) followed by discussions

****Wed, 18 Nov 1998**	0830-0900	Presentation of draft Framework for Action – Ms Mayling Simpson-Hebert, WHO-STC
	0900-0915	Orientation of Working Groups – Ms Mayling Simpson-Hebert, WHO-STC
	0915-1630	Group Work

(**Tea/Coffee will be served for Working Groups during the morning/afternoon sessions. Lunch break: 1200-1300 hrs)

Thu, 19 Nov 1998	**Final Plenary Session**	
	0830-1000	Presentation of Group Work
	1000-1030	TEA/COFFEE
	1030-1200	Discussion
		LUNCH
	1300-1500	Presentation and adoption of Framework for Action
	1500-1515	Closing
		TEA/COFFEE

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/3
05 November 1998

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WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/4
03 November 1998

BACKGROUND INFORMATION

Environmental sanitation seeks to control or change the physical environment and related human behaviour in order to prevent the transmission of disease, including safe disposal of human excreta and other household waste to prevent infections, and domestic water supply for drinking, cooking, personal hygiene and general household and community cleanliness.

Since 1970 sanitation coverage in developing countries has remained constant at about one-third. Projections to the year 2000 show no change in this pattern. In essence, the increase in world population leads to an almost equivalent increase in people not served by adequate sanitation.

A new sanitation strategy focusing on high-risk communities was developed by WHO and EB during it's 101st Session endorsed the strategy on sanitation for high risk communities. It has since become part of the Joint WHO/UNICEF Water Supply and Environment Sanitation Strategy.

"New Directions for Hygiene and Sanitation Promotion" findings of a Regional Informal Consultation held in New Delhi during 19-21 May 1993 was the first attempt at defining a new course of action in our Region taking into consideration the lessons learnt during the International Drinking Water Supply and Sanitation Decade in particular the realisation that the approach with governments as providers of services does not work. The planned Consultation intends to bring together the key persons from national governments and participants from UN and bilateral aid agencies to discuss the new strategy and introduce new "tools", namely, "Sanitation Promotion" developed by the Collaborative Council Working Group on Sanitation, and Participatory Hygiene and Sanitation Transformation (PHAST) methodology. The new strategy developed by WHO and complemented by the above mentioned PHAST methodology and Sanitation Promotion is considered the most suitable approach to addressing the poor sanitation situation in our region and participation of all major players in the sector is a necessary pre-requisite for success. The workshop will formulate plan of action for implementation of this strategy using these new tools.

Sanitation is universally accepted as a foundation for good health, and total coverage thus remains a vital aim. However, epidemics of cholera and plague in recent years and continued high endemic rates of diarrhoeal diseases and intestinal helminthic infestations have increased the awareness that certain communities are living in high risk and are suffering disproportionately. Generally such communities are crowded urban and periurban settlements, often without recognized legal status, and rural communities where polluted surface water and unprotected wells and springs prone to contamination are used for drinking water. Such environments, both urban and rural, lack hygienic toilets, proper drainage, solid waste disposal and water for good personal and domestic hygiene.

A strictly medical approach with case detection and treatment will not result in complete interruption of transmission and would represent a continual burden on resources for health. If all people suffering from these diseases could be cured, in the absence of sanitation, infection would still recur in an endless cycle. Countless

days of productive work and, for children, days at school are lost and each disease episode brings a setback in child growth and development. Even if ideal conditions of treatment and cure could be achieved for all (which is far from true today), repeated cycles of treatment corresponding to outbreaks are not the answer. A more permanent solution needs to be found for the elimination of the root causes. The recognition of the very high risk in these areas and the need for appropriate action should be given priority in national and local planning, as they stand to benefit by far the most from investments in water supply and sanitation.

The number of people at high risk is difficult to estimate. It will be the responsibility of each member state to determine who should have priority for sanitation services according to environmental sanitation conditions and - where data are available and relevant - disease patterns. In most developing countries half of all urban residents and a large proportion of rural communities may fall into the high-risk category. The new strategy combined with the PHAST methodology and Sanitation Promotion is considered the best approach.

The proposed Consultation will afford an opportunity to national authorities and experts concerned to exchange experiences discuss problems and issues, suggest approaches to plan and formulate a Framework for Action for Implementation of a Sanitation Strategy for High-Risk Communities.

Countries of the WHO South-East Asia Region have been requested to nominate senior officers responsible for policy making and implementation in respect of drinking water quality to participate in the deliberations.

Invitation for the Consultation have also been extended to selected UN agencies, bilaterals and NGOs.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/5.1
07 October 1998

STRATEGY ON SANITATION FOR HIGH-RISK COMMUNITIES

WHO/SEARO

World Health Organization
Organisation mondiale de la Santé

FIFTY-FIRST WORLD HEALTH ASSEMBLY

Provisional agenda item 29.2

A51/20
9 March 1998

Environmental matters

Strategy on sanitation for high-risk communities

Report by the Director-General

Poor household and community sanitation is a major risk to human health. Nearly two-thirds of all people in developing countries do not have sanitary excreta disposal, and the number without adequate services is growing. Current efforts to deal with the deficiencies are grossly inadequate and change is urgently needed, with a new strategy, particularly for those communities where the conditions are worst and the risk of contracting diseases related to insanitary conditions is highest, and where health would therefore benefit most from investments in water supply and sanitation. This document outlines action to be taken by WHO and other international organizations concerned.

The Health Assembly is invited to consider the resolution recommended by the Executive Board.

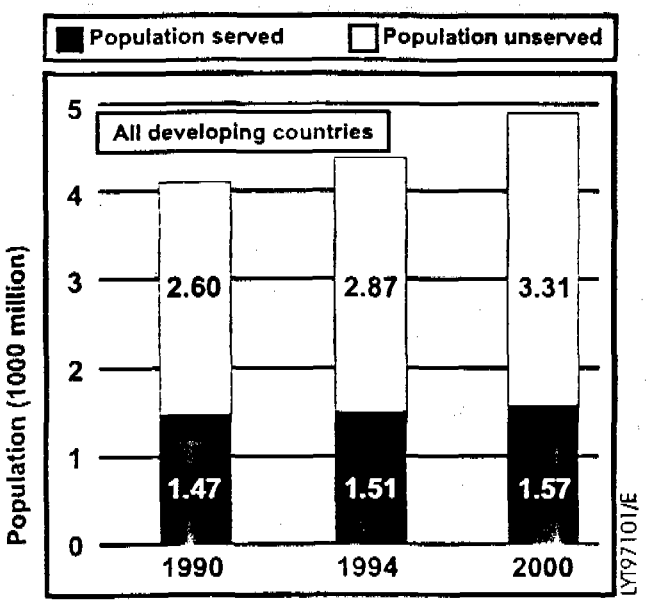
INTRODUCTION

1. The poorest 1000 million people on Earth are seven times more likely to die from infectious diseases - many of which are directly or indirectly related to bad sanitation - than are the least poor 1000 million.

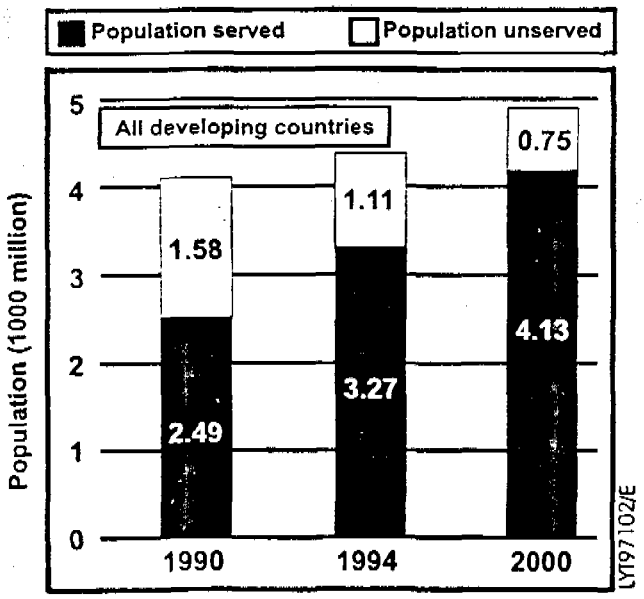
2. Since 1970 sanitation coverage in developing countries has remained constant at about one-third. Projections to the year 2000 show no change in this pattern (see figure below). In essence, the increase in world population leads to an almost equivalent increase in people not served by adequate sanitation. The dramatic proportions of the sanitation deficit become most evident when compared with the progress achieved in water supply.

3. A new sanitation strategy focusing on high-risk communities should guide WHO's activities in the future.

SANITATION



WATER SUPPLY



SITUATION ANALYSIS

4. Environmental sanitation seeks to control or change the physical environment and related human behaviour in order to prevent the transmission of disease. It ranges from safe disposal of human excreta and other household waste to prevent infections, domestic water supply for drinking, cooking, and personal and household hygiene, community sanitation efforts, to environmental safeguarding, including water pollution control. In each of these areas high-risk population groups and communities at risk can be identified.

5. Sanitation is universally accepted as a foundation for good health, and total coverage thus remains a vital aim. However, epidemics of cholera and plague in recent years and continued high endemic rates of diarrhoeal diseases and intestinal helminthic infestations have increased the awareness that certain communities are living in conditions of very high risk and are suffering disproportionately. Generally such communities are crowded urban and periurban settlements, often without recognized legal status, and rural communities where polluted surface water and unprotected wells and springs prone to contamination are used for drinking-water. Such environments, both urban and rural, lack hygienic toilets, proper drainage, solid waste disposal and water for good personal and domestic hygiene. The recognition of the very high risk in these areas and the need for appropriate action should be given priority in national and local planning, as they stand to benefit by far the most from investments in water supply and sanitation.

6. The number of people at high risk is difficult to estimate. It will be the responsibility of each Member State to determine who should have priority for sanitation services according to environmental sanitation conditions and - where data are available and relevant - disease patterns. In most developing countries half of all urban residents and a large proportion of rural communities may fall into the high-risk category. In preparing the grounds for strengthened sanitation programmes, high-risk communities, periurban as well as rural, require further specific definition and identification.

ENDURING VALUE OF INVESTMENTS IN SANITATION

7. Poor sanitation is largely responsible for many diseases, such as schistosomiasis (with an estimated current global prevalence of 200 million cases), typhoid fever (16-17 million cases), intestinal helminthic infections (1500 million people infested) and various diarrhoeal diseases (over two million infant and child deaths annually). Although these diseases can be treated using good case management and effective medicine, the existing needs far exceed the capacity to deliver such services.

8. A strictly medical approach with case detection and treatment will not result in complete interruption of transmission and would represent a continual burden on resources for health. Even if all people suffering from these diseases could be cured, in the absence of sanitation infection would still recur in an endless cycle. Countless days of productive work and, for children, days at school are lost and each disease episode brings a setback in child growth and development. Even if ideal conditions of treatment and cure could be achieved for all (which is far from true today), repeated cycles of treatment corresponding to outbreaks are not the answer. A more permanent solution needs to be found for the elimination of the root causes.

9. Those who suffer most are children and women of child-bearing age, as these diseases also result in anaemia and malnutrition. Governments which have taken the decision to invest in environmental sanitation have already cut high rates of infant and child mortality to minimal levels, whereas people in countries where such a decision has not been taken still suffer (see table below).

10. Rapid population growth, urbanization, and overcrowding, in the absence of sanitation services, results in increasingly polluted environments and increasingly high risk of disease epidemics. Through good sanitation services, together with safe and ample water supply, hygienic behaviour and safe food, this risk can be reduced

to nearly zero. The investment in sanitation breaks the cycle of disease transmission and lasts for generations, as demonstrated by many countries and cities with high population densities.

INFANT MORTALITY, CHILD MORTALITY, WATER SUPPLY AND SANITATION COVERAGE, AND GNP PER CAPITA IN SIX COUNTRIES, 1994 AND 1995

Country	Infant mortality rate (1995) (0–1 year) per 1000 live births	Child mortality rate (1995) (0–5 years, cumulative) per 1000 live births	Access to safe water (1994) (percentage of population)	Access to adequate sanitation (1994) (percentage of population)	GNP per capita (1995) (US$)
Afghanistan	159	251	10	8	<765
Chile	15	17	96	71	4 160
Ghana	77	113	56	42	390
Guinea-Bissau	135	207	57	20	250
Philippines	39	48	84	75	1 050
Sweden	5	6	100	100	23 750

Source: WHO, 1996.

11. For decades sanitation has been given extremely low priority in comparison with other general development needs. With the advance of treatment of diseases associated with poor sanitary conditions, preventive measures have unfortunately been relegated to a minor role. There is a lack of political will for - and investment in - sanitation, and those in need of such services cannot exert sufficient public pressure to bring about change; they are also less willing to pay for sanitation than for water supply.

12. Other constraints are a lack of appropriate technology for difficult situations (such as crowded urban settlements and areas where pit latrines cannot be dug) and the difficulty of legislating for improvement in sanitation in illegal settlements.

NEW STRATEGY

13. Given the persisting low sanitation coverage, the high prevalence of diseases caused by poor environmental conditions, low investment in sanitation, and population growth and urbanization, a new approach to sanitation is considered to be the best course of action. Focus on high-risk communities will allow maximum health benefits to be derived from investments in sanitation and related programmes. In the context of the health-for-all strategy this approach has to be an integrated and interdisciplinary one, based on strengthened internal coordination and cooperation among organizations of the United Nations system and with appropriate nongovernmental organizations.

14. Consequently, it is proposed that Member States of WHO and all other organizations concerned should focus sanitation efforts on high-risk communities, with renewed emphasis on sanitation as a whole, in terms both of overall investment and of integration with related development activities. Of great importance to the success of this effort will be the involvement of communities in planning, implementing and maintaining their services

and the development of sanitation technology suitable for difficult geographical and residential conditions, taking into account cultural beliefs and habits, and long-term ecological and financial sustainability.

15. No illusions should be nourished, however, that sanitation for the rural and urban poor could be provided on a full-cost-recovery or even on a self-financing basis, as is increasingly the case of urban water supply, with its current trend towards privatization. In the case of sanitation, gains for public health more than justify public expenditure. Considerable community involvement and self-help will be needed in order to offset costs and to ensure greater sustainability of sanitation systems.

16. The high-risk approach must be both ethical and promotional (see paragraph 17(2) below). Public health principles demand that those at highest risk should be given priority. Lack of social equity in supporting communities' efforts for sanitation is a main reason for the heavy disease burden and many epidemics observed today. Environmental sanitation has therefore to be closely linked, and provide support, to the reduction of infectious disease transmission, with particular emphasis on children and women of child-bearing age.

17. The main elements of the new strategy are:

(1) **focus on communities at high risk from diseases related to insanitary conditions:** Member States should: identify and give high priority to high-risk communities and subgroups in urban and rural areas according to existing conditions, taking into account health statistics (including intraurban health differentials) and other systematic data from screening, where available and relevant; support and participate in research on sanitation methods and technology specially suited to the needs of communities in difficult geographical and social conditions (e.g., rocky soil, high water-table, extreme crowding, no legal status, extreme poverty), and should analyse successful cases and establish models of "good practice"; and ensure the suitability and sustainability of sanitation services through programmes of meaningful community involvement, stimulating community action and self-help, and remaining sensitive to cultural and ecological needs. The competent authorities and agencies could greatly benefit from collaboration with nongovernmental organizations and other groups with successful experience in community participation;

(2) **higher priority to sanitation in national planning for health and investment in infrastructure:** Member States, international development organizations and nongovernmental organizations should begin a sanitation promotion programme to increase political will at every level; priorities should be established in the preparation of national action plans for health and environment, and should be firmly integrated into programmes for implementation; sanitation should be integrated with as many other aspects of development as possible, such as programmes on child survival, maternal and child health, communicable disease control, essential drugs and agricultural development (with recycling of waste where feasible and appropriate).

WHO'S ROLE

18. WHO has a responsibility to provide leadership in sanitation as a major determinant of health, bearing in mind that most of the public works and other measures are undertaken by authorities other than health agencies, such as municipal services and local government.

19. WHO's mandate includes support to such programmes initiated by authorities in other sectors than the health sector (see the corresponding provisions in paragraph 4 of resolution EB101.R14).

20. Thus WHO, in cooperation with other appropriate organizations in the health sector will play an effective and dynamic role in changing attitudes and establishing priority for sanitation.

MATTERS FOR THE PARTICULAR ATTENTION OF THE HEALTH ASSEMBLY

21. The Health Assembly is invited to consider the resolution recommended by the Executive Board in its resolution EB101.R14.

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WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

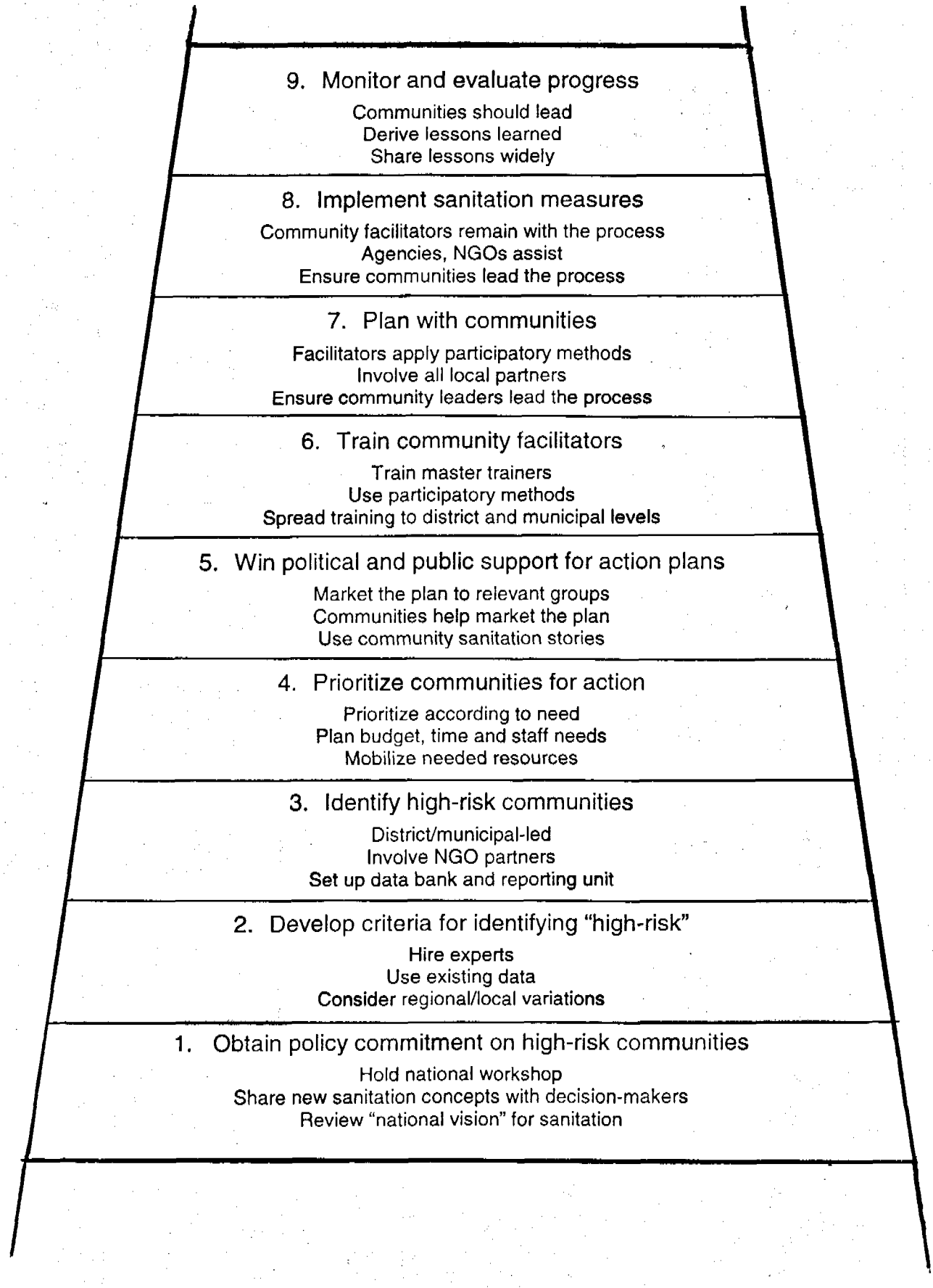
SEA/EH/Meet/5.2
06 November 1998

DRAFT FRAMEWORK FOR ACTION ON NEW APPROACH TO SANITATION

WHO/SEARO

Framework for Action on New Approach to Sanitation

LADDER OF ACTION AND ELEMENTS



Introduction

Poor household and community sanitation is a major risk to human health. Nearly two-thirds of all people in developing countries do not have sanitary excreta disposal and the number without adequate services is growing. Current efforts to deal with the deficiencies are grossly inadequate and change is urgently needed.

Countries in the region are at different stages of progress in achieving coverage and in modernizing their programs. Thailand has nearly achieved universal coverage but has serious problems of water pollution in its major rivers and streams from sewage. Sri Lanka, Myanmar, Indonesia, Bhutan and Bangladesh have undertaken major program reforms in recent years and are applying with success the principles of better sanitation programs. Some of these countries may achieve full coverage within the next 5 to 10 years.

India, Nepal and Maldives all have very special problems holding back significant progress. India is a very large country geographically and has an enormous population of nearly one billion people. Its population size is so large that it puts it in an entirely different category from other countries in the region. Nepal, while having a much smaller population of 21 million, has low infrastructure development. Lack of roads and its largely mountainous terrain are impediments to reaching many rural villages needing assistance. Maldives also has geographical constraints, being composed of thousands of small islands that can only be reached by boats and having low infrastructure development. Bangladesh, although it has an active and progressive sanitation program, faces obstacles related to large population size and annual flooding which often destroys what has been put into place.

Despite these obstacles to sanitation development, countries can revitalize their sanitation programs and achieve higher coverage within the next decade. A new strategy is needed, particularly for those communities where the conditions are worst and the risk of contracting diseases related to insanitary conditions is highest and where health would therefore benefit most from investments in water supply and sanitation. This document outlines actions to be taken by Member States of the Southeast Asia Region to promote and expand sanitation coverage, prioritizing high-risk communities.

Background

Since 1970, sanitation coverage in developing countries has remained at about one-third. Progress in water supply has greatly exceeded progress in environmental sanitation. WHO and other UN and bilateral bodies have taken up the challenge in the last five years to learn lessons and derive principles which would give greater success to sanitation programmes and sustainability of services. A number of key documents have been produced in 1997 and 1998 in addition to a resolution by the World Health Assembly in May 1998, calling on all Member States and other international organizations to give further emphasis to sanitation and prioritize those communities in greatest need. This document, "Strategy on sanitation for high-risk communities," is an

outgrowth of a 1993 SEARO informal regional consultation on New Directions for Hygiene and Sanitation Promotion where participants called for "sanitation for high-risk communities and hygiene promotion for all."

Purpose

The purpose of this consultation is to consider the Strategy on sanitation for high-risk communities, together with other new documents on sanitation which provide sound approaches and tools, and to come up with a framework for action for the region.

Approach

The approach for the region is a focus on high-risk communities, while recognizing that universal sanitation coverage remains the overall ultimate goal. Sanitation promotion should utilize modern methods of advocacy, social marketing, and social mobilization to build political will and partnerships for sanitation. Principles of better programmes should be widely communicated and applied. Community participation methodologies that are sound and tested, together with trained community facilitators, should be routinely applied, and innovative approaches and technologies should be tried. The search for new and better ways to promote sanitation and new and better technologies should never end. New findings, inventions, and success stories should be widely shared and become part of a new science of sanitation. The status of sanitation practitioners should be raised to its correct position, as guardians of public health.

The approach of the action plan is that of a ladder, as shown in the attached Figure. The idea is to adopt a framework within which progress can be made on a step-by-step basis, starting with the broad sanitation picture and focussing in step-by-step on the high-risk communities. The framework incorporates all that is considered to be "cutting-edge" in the sector and suggests ways that each of these new concepts and tools can be incorporated into national programs. Key documents that can serve as guidance tools are referred to when their application seems relevant to the step.

Action Plan

The revitalization of sanitation program can take place by applying the nine Actions (steps) in the following action plan:

(1)

(2)

etc.

ACTION 1: Holding a national level workshop to develop or review the "national vision" for sanitation in light of new information and emphasis on high-risk communities.

Objectives: To share new sanitation information and approaches at national level,
To develop or review the "national vision" for sanitation, prioritizing high-risk groups
To win political commitment to the national vision for sanitation and to trying new approaches,
To reinforce partnerships for sanitation among concerned groups, and
To introduce the concept of ecological sanitation and ecological technologies.

Action: A national level workshop should be held with senior level decision-makers, major donors, NGOs and all other potential partners. The need for more emphasis on sanitation, the concept of high-risk communities and new approaches to sanitation (both hardware and software) needs to be marketed to all participants at that meeting. Participants should review the existing "national vision" for sanitation and decide if any goals need to be revised or approaches modified, especially with regard to prioritizing high-risk communities.

Initiator: Ministry of Health with assistance from WHO.

Timeframe: Within 3 months of close of Pokhara consultation

Resources: Persons who attended the WHO Regional Sanitation Consultation, major players and stakeholders at national level, major documents on sanitation from that meeting and from elsewhere, ("Strategy on sanitation for high-risk communities," "The PHAST Step-by-step Guide," "Sanitation Promotion," "Ecological Sanitation," and successful case studies and other relevant documents).

Tip: The national vision for sanitation and strategy should be integrated with the national plan for environment and other national strategies for maternal and child health, child survival, essential drugs and agricultural development, and any other related strategies. Different government agencies and programmes should try to have a common approach to sanitation. This common approach should be advocated primarily by the ministry of health.

ACTION 2: Developing national and district criteria for identifying high-risk communities.

Objective: To develop national and district criteria for identifying high-risk communities in order to prioritize them for sanitation.

Action: Hiring consultants or universities to develop criteria.

Initiator: Ministry of Health

Timeframe: 3 months

Resources: University professors, international experts (if needed), national experts on sanitation, public health officials, local leaders and NGOs, geographical maps of diseases patterns, statistics on water supply and sanitation coverage, data from international organizations and major NGOs.

Tip: National criteria should consider cultural, geographical and settlement pattern differences within the country. Some local criteria will likely need to be developed.

ACTION 3: Identifying high-risk communities at district and municipal levels.

Objective: To identify high-risk communities using criteria developed.

Action: Involve all sanitation partners, including NGOs, to apply criteria to locate high-risk communities and roughly estimate their needs. Designate units at district and municipal levels to coordinate all data and produce reports of findings.

Initiator: Ministry of Health

Timeframe: 3 months

Resources: Criteria for high-risk communities, national and local officials, supported by consulting firms, universities, religious groups, NGOs, as needed.

ACTION 4: Making district plans for sanitation and serving high-risk communities.

Objective: To make district plans for sanitation, prioritizing high-risk communities including time, staff, budget, monitoring and evaluation criteria.

Action: Using data gathered in Action 3, form a team involving all sanitation partners and NGOs to make district plans. The plan should prioritize communities according to need. The plan should include training community facilitators, training masons in various technology options, a plan for social marketing to leaders and the public, and monitoring and evaluation.

Initiator: District level and municipal health departments

Timeframe: 3 months

Resources: Various sanitation documents, all sanitation partners in the district and representatives of communities to be served.

ACTION 5: Winning political, social and financial support for the plans.

Objective: To win political, financial and social support for the plans.

Action: Conduct "social marketing of the plan" to relevant groups. Market the budget to donors, as needed. Communities themselves, NGOs and all other sanitation partners can participate in the marketing efforts.

Resources: Social marketing articles in "Sanitation Promotion." "Community sanitation stories," written up by local writers and performed by local acting groups can be a very powerful tool at both local and national level.

Initiator: District level and municipal departments of health

Timeframe: 3 months

Tip: A powerful tool for social marketing is community sanitation stories. These are stories that indicate the needs and suffering of people in high-risk communities. They are gathered, written up by professional writers into short plays, and acted in churches, community centers, and on video for use by television. Such stories should share not only the pain and suffering but also the humor in many of these situations. Community actors should be used as much as possible.

IMPLEMENTATION PHASE

ACTION 6: Training community facilitators.

Objective: To provide training to community-level facilitators through establishment of core master trainers at national and district levels.

Action: Select persons at national and district levels to be trained in participatory methods so that they may work with communities in selecting sanitation options and changes in hygiene behaviors. Carry out a training of trainers workshop at national level. Each master trainer will then train further in districts and urban areas.

Initiator: Ministry of Health

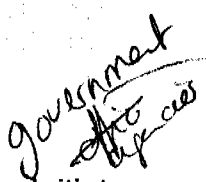
Timeframe: 6 months

Resources: "PHAST Step by step Guide", international trainers in PHAST, local experts in participatory methods.

ACTION 7: Making individual sanitation plans with and for communities.

Objective: To assist communities (and institutions) in making their sanitation improvement plans and the monitoring and evaluation of those plans.

Action: Community facilitators trained in PHAST or other participatory methods will go to communities and take them through the steps outlined in the "PHAST Step by step Guide." This will result in a plan that the community will be committed to carry out. Outside experts, and NGOs should participate as needed but the community should feel ownership of the plan and be the final decision-makers.



Initiators: District level and municipal departments of health

Timeframe: 1 month each community

Resources: Community facilitators trained in PHAST, experts from outside the community, such as local health personnel, district and municipal water and sanitation engineers, NGOs, donors, religious groups interested in development, and community members. For alternative sanitation options outside the better known ones, see relevant sections of "Ecological Sanitation" and "Sanitation Promotion."

Tip: Many participatory methods exist and some countries may have adopted particular methods and are using them successfully. PHAST was developed specially for improvement of community sanitation and hygiene behaviors. It is easy to use, is especially useful for illiterate and semi-literate communities, and has been very successful in every site where it has been applied. Countries should consider trying PHAST for working with communities.

ACTION 8: Implementing the plans

Objective: To assist communities (and institutions) in implementing their plans.

Action: Community facilitators stay in the community and work with them to carry out their plans. Government agencies, NGOs and other sanitation partners provide assistance as specified in the plan. Community leaders lead the process. The monitoring and evaluation plan made by the community is followed.

Initiator: District level and municipal departments of health

Timeframe: 3 or more months depending on plan and size of community

Resources: The community plan, experts inside and outside the community.

ACTION 9: Monitoring and evaluation: Learning from each community experience and giving feedback to the program.

Objective: To learn lessons from each community experience and to share those lessons with other communities and relevant agencies for future programming.

Action: Communities should be involved in their own monitoring and evaluation. Data from the monitoring and evaluation are carefully studied for lessons learned. These lessons are shared with other communities, national and local authorities, donors and other relevant groups so that successes are repeated and weaknesses strengthened. Mistakes can be identified and not repeated.

Initiator: District, municipal and national health authorities.

Timeframe: 1 month each community; central data bank, reports updated and shared every six months

Resources: The community M&E plan, relevant articles in "Sanitation Promotion," relevant sections of "Hygiene Evaluation Procedures."

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

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09 November 1998

DRAFT SUMMARIES: COUNTRY STATUS REPORTS

WHO/SEARO

Bhutan

Sanitation is a high priority in Bhutan, together with water supply. About 75-80% of Bhutan's population of 600,000 has sanitation facilities. Three main types of toilets have been promoted and are well-accepted by the population: ventilated improved pit latrines, pour flush latrines and long drop compost toilets. Subsidy for household toilets stopped in 1994 and in 1998 sanitary sales outlets became a primary means for promotion of sanitation. School sanitation has been less successful than household sanitation and has emerged as a major issue. The VIP latrine is the only model recommended for schools without water supplies, owing to problems with other designs. Emphasis is now being placed on training school management in the operation and maintenance of school facilities.

Bhutan's two major towns now have new sewerage systems, completed in 1996, covering a total of 26 000 inhabitants but not serving 100% of residents. Prior to sewerage systems, households had mainly used septic tanks and soakaways. When septic tanks were emptied, contents were thrown into rivers, polluting them and posing major public health hazards. This has now been eliminated and water quality in the river and streams has improved. Plans are underway to extend sewerage to low-income groups and areas not yet served.

In the future, all septic tanks will be by-passed, owing to leakage from old and cracked walls. Advance information to the public will be improved in order to avoid delays in implementing schemes. Plumbing codes will be strictly enforced to avoid problems of odors and blockages in the sewer system.

India – Urban

The population of India is around 0.97 billion and about 30% currently live in urban areas. Much, perhaps 30-40%, of this urban population is located slum and squatter settlements. In 1997 about 49% of the urban population was covered with sanitation. Population growth and urbanization in India is so rapid that urban sanitation will remain a challenge for many years to come.

The provision of sanitation rests with State and local bodies. Four ministries at national level, however, are involved in sanitation. The Ministry of Urban Affairs and Employment is the nodal ministry for urban sanitation. The Ministry of Environment and Forests deals with water pollution. The Ministry of Health and Family Welfare deals with environmental health and sanitation. The Ministry of Welfare is concerned with the liberation of scavengers, who traditionally empty latrines and collect solid waste, which keeps them at the bottom of the Indian social ladder.

The Ministry of Urban Affairs and Employment is currently implementing a scheme to convert existing pit latrines into pour-flush latrines to eliminate scavenging and provide alternative employment to scavengers through the Ministry of Welfare. The Ministry of Environment and Forests has projects to intercept and divert sewers and construct sewage treatment plants in order to prevent further pollution of major rivers. The Ministry of Urban Affairs and Employment provides subsidies and loans to lower income groups to convert dry pit latrines to pour-flush systems or construct new latrines.

A major NGO, Sulabh International, has been active in developing community toilet complexes on a pay-and-use basis for slum and squatter settlements and public places such as railways stations and bus stands. It promotes bio gas plants and offers vocational training, education and alternative employment for scavengers.

The main technologies used in urban areas are sewerage systems with no treatment, primary or secondary treatment, pour flush latrines and septic tanks. In some cases, sewerage and wastewater are recycled in agriculture and used for production of biogas. Pollution and environmental degradation are ever-increasing problems in urban areas and are of great concern.

New strategies being tried to move sanitation forward include decentralization, commercialization and market-oriented financial systems. Full cost recovery, full autonomy of WSS agencies, reuse of sewage for agriculture and industrial uses, incentives for fresh water conservation by industries, and hygienic collection of toxic and hazardous wastes have been recommended for the future. Institutional and financial reforms are also necessary.

With an additional 257 million people in urban areas to be served by the year 2007, the size of the problem is gigantic. The sanitation problem is intertwined with problems of flooding, land erosion, increasing vector borne disease, solid waste and drainage, and all must be addressed simultaneously. A working group for the Ninth Five Year plan has recommended 100 priority cities composed of 60 million people be addressed bringing total urban coverage up to 75%.

The high cost of sewerage systems has been a deterrent to rapid sanitation coverage. Initiatives are underway to find alternative approaches both to sewerage and its treatment and to recycle as much as possible sewage for nutrients for agriculture and bio gas generation. Studies have been undertaken on the economic value of sewage with a view toward sales and cost recovery.

India – Rural

The population of rural India is nearly 700 million people and it is estimated that 20% are covered with sanitation. This leaves about 560 million people or about 120 million households to be served.

Past efforts in serving the rural population has resulted in slow progress and has led to a serious analysis of constraints and opportunities. The main constraints to progress have been subsidies, which prevent private initiatives, a bias toward one sanitation option, the twin pit pour flush latrine, lack of user involvement in the program, and the neglect of school sanitation. Studies have shown that greatest progress has been made when the private sector is encouraged to provide services and consumers pay part of the cost. Private initiatives, often led by NGOs, banks and panchayats, have outstripped government initiatives by as much as 100 times. Sanitation campaigns in small problem areas have been more effective and sustainable than dispersed efforts.

The Government of India does not have either the funds or manpower to achieve the task at hand, a further constraint. This information has led to recommendations for the future. The target for rural sanitation coverage for the Ninth Plan should be set at 50%. Subsidies should be phased out, a range of sanitation options should be offered to the public. An NGO-driven and demand-oriented delivery system should be supported, with contracts to NGOs, and small groups of villages should be concentrated upon in an intensive manner. IEC should be strengthened, both to impart information and to generate demand among the public. In short, top-down supply-driven policy of the government should give way to a policy of supporting local initiatives and private enterprise.

In 1995, steps in this direction were taken with the establishment of sanitary marts, total sanitation for villages and the organization of intensive IEC and health education campaigns.

Indonesia

Indonesia has a population of 200 million and sanitation coverage of 58% (78% in urban areas and 49% in rural areas). The central government has given high priority to sanitation for many years and especially during the last decade. In recent years national efforts have focussed on innovative approaches which are bringing about more rapid change. By the year 2000, Indonesia hopes to have sanitation coverage of 90% in urban areas and 65% in rural areas.

The main features of Indonesia's sanitation program are stimulant packages for latrine construction comprised of cement, toilet pans and vent pipes, a strong hygiene and sanitation education program, a strong training program of district and subdistrict staff, villages cadres, school cadres, women and village sanitarians.

For the future, Indonesia plans to push its sanitation program forward by further strengthening existing positive elements of its program: greater involvement of local governments, integration of sanitation into other related sectors, and greater empowerment of communities to take over maintenance of their facilities. They want to encourage greater involvement of NGOs, including religious institutions, more capacity building at district and community levels and greater involvement of women and women's groups, such as the PKK.

A major effort is underway, called the Clean Friday Movement, which sets aside Friday as a day for cleaning the home, office and public places and for religious leaders to promote sanitation in the weekly sermons. While originally based on Islamic principles, Clean Friday is extended to all religious groups. Indonesia has also had a remarkable success story in West Lombok District through the training of village masons.

While Indonesia is using modern approaches to the promotion of sanitation, and sanitation coverage is definitely accelerating, the program still has a few constraints to overcome. Its monitoring and reporting system is still inadequate, it has insufficient capacity to facilitate community-based activities and there is weak coordination of various resources available. Overcoming these remaining constraints is the challenge for the immediate future.

Myanmar

Myanmar is currently undergoing a sanitation revolution. A National Sanitation Week held in May 1998 launched the current campaign and achievements within the last few months indicate that Myanmar is very likely to attain full sanitation coverage in a very few years.

At the end of 1997, sanitation coverage in Myanmar was 46% and personal and domestic hygiene was poor. A review of the national sanitation program made in early 1996 determined that the strategy of supply-driven, top-down approach should be replaced by a demand-driven, need-based community participation approach using social mobilization and self-help financing. This approach was launched in May 1998 with remarkable immediate results.

The most common type of sanitation in Myanmar is the dry pit latrine. Many such latrines are unsanitary and part of the new campaign is to make them fly and rodent-proof. The major part of the campaign, however, is to convince people through advocacy, participatory approaches and education to build latrines and use them. Very limited hardware supplies are made available for demonstration purposes only. No subsidy in the form of cash or hardware is given. Very poor families are assisted by their neighbors.

The National Sanitation Week set a goal of one million new latrines covering 12% of the country's households. Within 3 months, 75% of this goal was met. Factors influencing this achievement are high political commitment, choice of technical options by the community based on affordability, cooperation among all agencies concerned with sanitation, and a participatory approach with communities which has fostered a sense of ownership of the program. Myanmar has set what they believe is a feasible and practical target of 80% coverage by the year 2000.

It is likely that Myanmar will soon achieve 100% sanitation coverage owing to their new strategy. They plan to focus in 1999 on high-risk communities (congested slums, flooded and low-lying areas, communities on the banks of rivers, areas along transportation routes, and public eating places where sanitation is inadequate) and border areas of the country.

Nepal

Nepal has a population of 21 million, 90% of whom live in rural areas. However, rural-to-urban migration is occurring at a rapid rate and has put extra pressure on the government to provide urban services. Sanitation coverage for the country is 16% for rural areas and 51% for urban, with a total average of about 20% for the country. A 1997 Multiple Indicator Surveillance Survey provided slightly different estimates of 12% in rural areas, 63% in urban areas and an overall national average of 15%. Whatever the situation, Nepal is far from having adequate sanitation coverage and is making a major effort to promote sanitation.

In rural areas the main technologies used are simple pit latrines and a few pour flush latrines. In areas with a high water table, raised concrete pit latrines are found. In urban areas, pour flush latrines with septic tanks and sewerage systems are the norm. Treatment of sewerage is inadequate and is a source of pollution to rivers.

Current policy in Nepal puts strong emphasis upon expansion of sanitation. The policy aims at health education, information and community mobilization, with particular emphasis upon women and participation of NGOs and community based organizations. The policy stresses on promoting behaviour change and community involvement. Five points of the policy are awareness raising, district profiles, mobilizing the private sector and local organizations, developing middle level manpower, and regular monitoring of progress. The government has noted that in the past sanitation has been mainly supply -driven and heavily subsidized. Experience has shown that subsidized technologies without prior consultation with communities has been prone to failure. Government policy is to do away with subsidies and to emphasize motivation and awareness.

There are a large number of agencies and institutions involved in sanitation in Nepal: four government ministries, international and bilateral donors and international and national NGOs.

The long term vision for sanitation in Nepal is for the construction of sewerage systems with appropriate treatment in all urban areas, combined with good solid waste management. Appropriate technologies, including Sulabh household latrines, will be promoted for rural areas. The approaches will remain the same with a good balance of hardware and software aspects. By 2002 Nepal hopes to have 40% sanitation coverage (36% in rural and 60% in urban areas), or a doubling of facilities in 5 years. Great emphasis will be placed on preventing the discharge of sewage wastes into rivers, health and hygiene education, mass communications and training programs to appropriate target groups.

Thailand

Thailand has achieved very good sanitation coverage, 98% in rural areas and 100% for urban areas. Proper latrine using behaviour is low in rural areas (21%) and there are problems with disposal of human excreta from buses and trains. Overall, however, Thailand's achievements are impressive. Quite a number of government agencies and NGOs have been involved in Thailand's success, elements of which include decentralization of authority in managing resources for sanitation, law enforcement, use of new technologies, and involvement of NGOs and the private sector.

Thailand is suffering from air pollution, water pollution and pollution from toxic substances and much attention is now turning to these problems.

Having achieved much in the areas of primary health care and a sanitary environment, Thailand is moving on to other aspects of human well-being and development. The country is focussing now on achieving a "civil society" which involves all aspects of human growth, development and happiness. A civil society has four aspects: intellectual, material, social and spiritual.

Sri Lanka

Sri Lanka has a population of about 21 million, and as of 1993, 60% of the total population was covered with sanitation (70% rural and 80 urban). Disturbances in the northern and eastern parts of the country may have caused sanitation to lag behind in those areas and data currently are difficult to collect. Nonetheless, it is believed that sanitation coverage in the country is now better than 60%.

Most of Sri Lanka's urban areas are served with sewerage systems and water-seal toilets with septic tanks and soakage pits. In rural areas pit latrines and bucket systems have been gradually replaced over the last two decades with water-seal toilets.

Sri Lanka has a literacy rate of over 85%, and the need for the use of toilets is understood by the population. Most households provide their own facilities, but the government does have a subsidy program for assisting poor households which has been very successful. Various NGOs are active in the sector and work together with government.

The short-term goal is to have 100% sanitation coverage by the year 2005. To achieve this the government of Sri Lanka will extend sewerage systems in urban areas, will focus projects on least served areas, continuation of the subsidy scheme to the very poor, and continued training of public health manpower.

WORLD HEALTH ORGANIZATION

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07 October 1998

BANGLADESH – COUNTRY STATUS REPORT

WORLD HEALTH ORGANIZATION

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07 October 1998

BHUTAN– COUNTRY STATUS REPORT

DRAFT

COUNTRY REPORT ON SANITATIN IN BHUTAN

Introduction: Bhutan is a small mountaneous country boadered by Tibet (China) and the Indian states of Sikkim, West Bengal, Assam and Arunachal Pradesh. It has a total land area of approximately 46,500 square kilometres and a pouplation of around 600,000. The terrain is one of the most rugged and mountaineous in the world as the country includes part of the Himalayian ranges.

Majority of the population remains dependent on agriculture for income and employment. Bhutan opened to the outside world only in the late fifties, however within the short span of less then 40 years it has achieved signnificant economic progress.

Rural Sanitation

Rural water supply programme in Bhutan started in 1974 with assistance from UNICEF. By 1997,the population covered by safe water was estimated at 58% of the rural population. Sanitation, an important component which compliments water programme was missing in the initial phase. Later as development progressed, sanitation became an integral part of Rural Water Supply Programme. More and more attention is now given to sanitation as safe water alone will not achieve the objective of improving health. Coverage of rural population with latrines is estimated to be 75-80%. The usage and the sanitary condition, however need to be assessed.

Royal Government attaches high importance to provision of safe drinking water and sanitation facilities as part of strengthening preventive health care services. Water borne and sanitation related diseases are still the top ranking diseases in Bhutan. It is for this reason that Government recently transferred the Rural Water Supply and Sanitation Programme from an engineering organisation, Public Works Division to Health Division. The programme is now directed to address the health issues. Engineering activities are integrated with the related health activities and th programme is intensified to keep in line with the goad of Health for All by 2000.

LOW COST SANITATION PROJECT (1985 - 90)

The UNDP funded Low Cost Sanitation Project is the first project on sanitation initaited by the Royal Government of Bhutan. The main objective of the project was to promote sanitary practices of disposal of human excreta as a means of improving health in Bhutan.

The project envisaged provision of low cost latrines to schools, Basic Health Units, dispensaries and selected households. The following three types of latrines were adopted and implemented.

3 7/11

(I) Ventilated improved double pit latrine (VIDP)
(ii) Pour Flush (PF)
(iii) Long Drop Compost (LDC)

The project also focused attentiion on the essential support programme such as training of National Instructors, district engineering staff, schoo teachers, basic health workers and health assistants, masons and selected village leaders and village health workers.

The project cmmenced in 985 and the physical achievement in 1990 was

Sl. No.	Institution	Revised Target	Target Achieved
1.	Latrines in schools	741	818
2.	Latrines in BHU and Dispensaries	134	143
3.	Latrines in selected houses	643	728
	Total	1518	1689

Lessons learnt

* Rural people have likded and accepted the improved type of latrines due to the fact, that

- it is durable
- can be kept neat and clean
- easy to maintain
- need to frequent repairs
- free from flies and foul smell
- more hygeinic and
- provide privacy

* Women and children who mostly stay at home during day time find it convnient to use the latrine in privacy.

* The community education programme before installing the physical facilities and the incentive offered by the Government in the form of material support has contributed to th success of the project. Demand for improved latrine has ben generated in the unserved families.

* Household latrines have been observed to be kept in reasonably good hygeinic condition due to the user's feeling of ownership and the desir4e to clean periodically.

* The status of use and unkeep of latrine in the Institutions (Schools, BHUs) was far from satisfaction.

* The project is considered successul in that an awareness has been created and that the people are for the first time exposed to different types of latrines and the effct of personal toilet habits towards a cleaner environment have been demonstrated.

INTEGRATED RURAL WATER SUPPLY AND SANITATION (1990 - 94)

From 1990 onwards, Sanitation was integrated with the UNICEF funded Rural Water Supply Programme. Sanitation (latrine in terms of physical facilities) was included in water supply programme right from planning, survey, design and estimate and execution.

Rural Sanitation Project under UNICEF assistance continued promoting the the three improved type latrines introduced by the UNDP Low Vcost Sanitation project for a period of one year.

The latrine designs were later modified and in the integrated approach, only Ventilated Improved Pit (VIP) type latrine using ferro cement slab platform was promoted in all the households where water supply scheme was sanctioned. Materials for the slab, ventilation pipe and skilled labour required to cast the slab was provided by the Government free of cost. The unskilled labour and the local materials including he superstructure are contributed by the household. During the period, 2500 nos. of household latrines were built together with water supply.

In schools, the same VIP latrines and newly developed urinals were installed. Till date, a total of about 800 VIP latrines and 700 urinals have been installed in schools.

Together with the construction of latrines, Sanitation Promotion and Health Education is a contineous activities. A separate sub-project 'Sanitation Promotion' under UNICEF assisted Rural Water Supply and Sanitation Programme is designed to address the problem of

- *low coverage of latrine*
- insanitary latrine condition
- unhygeinic condition in the kitchen
- abundance of files in the rural houses
- lact of proctice of hand washing before eating and afer defecting, especially among mothers.

The strategy being adopted to bring about general awareness and better sanitation practices are

- village level training
- radio messages
- model village concept
- promotional materials

PRESENT APPROACH TO SANITATION

Subsidy for latrine construction was stoppd since 1994 firstly because the external fund for Rural Water Supply and Sanitation Programme declined and secondly a Royal Decree was issued which made it mandatory for every household to have at least a simple pit latrine.

Household sanitation promotion will continue together with water supply programme. Technology options, construction materials and technically assistance will be made available by the Government to the community. The household will have the choice to select the latrine type that suits their financial and other requirements.

A start has been made to establish a sanitary sales outlet that provides the technology, materials and advice on the different types of latrines. One such sanitary outlet has ben in operation since March 1998.

Depending on the experience of this sales outlet, many more will be established at the Block level.

School sanitation in emerging as a major issue. Despite installation of many types of latrines in schools, the technology and management of th facilities is far from satisfactory. The following recommendations have been made after rapid assessment of the facilities in few schools.

Technology

- **VIP Latrines** - The VIP latrine is recommended for all rural schools, where there is no water supply or insufficient water supply. This design is also recommended for schools in semi - urban and urban areas as immediate, temporary and low cost solution for the sanitation problem. The design has been modified to improve its life-time, easy to clean and reduce the land space required.

- **AP Latrines** - The AP latrines are not suitable, if the water supply is insufficient in schools. Therefore, constructing AP latrines in schools where the water supply is inadequate is waste of recources. The design is only recommended, where the water account while selecting the appropriate design. Normally this design shall be recommended for urbn and semi - urban schools, where sufficient water supply is available. As lot of materials are required for AP latrines construction, the distance of the school from the motorable road should also be considered while choosing the sanitation design and materials. The improved AP latrine design and drawings are given in Annex VI. The design has been improved to reduce the cost, improve its operation and maintenance, easy to construct and to over come several draw-backs noticed in the present design.

- **Pour-Flush Latrines** - This design is not suitable for students due to their habit of using paper, grass, stick and others. Similarly, the major of senior girls throw sanitary napkins into the latrines, which frequenty block latrines. Even in teachers latrines, this problem was

noticed. Therefore, it si strongly recommended that his design should be used in urban and smi - urban schools only for teachers latrines, teaachers quarters and may be for hostels, if students shall be educated for proper use. The availability of sufficient water supply is also must for the design. As this design is standard, no drawings are attached. However, the design and drawings for septic tank and the soak pit are given in Annex VII.

- **Urinals** - In all most all schools, the need for seperate urinals, will reduce the load on latrines. In early 1990s, a separate urinals were constructed in sevral schools. Many schools reported that the system was good, but the design and construction was poor, so it did not work for a longer time. Further cleaning and maintenance were difficult in the old urinal system. Based on the design used commonly in India, a urinal design has been developed and drawings for the same are given in Annex VIII. This design is easy to clean and maintain.

Operation and Maintenance

- The shool management should be fully trained on the operation and maintenance of sanitation systems in their school and provided with guidelines, manual and checklists as appropriate for their future reference and to help for orientation of students.

- Availability of water supply, in adequate quantity, should be ensured for proper personal cleaning and cleaningj of sanitation systems in schools.

- Students and teachers should be given regular orientation on proper use of sanitation facilities, advantages and disadvantages of using and not using sanitation facilities, personal and school hygiene.

- Less importance for sanitation and lack of maintenance were most common problems noticed in almost all schools. Therefore, the District Administrations should focus on these two issues and promote the importance of sanitation and maintenance of water supply and sanitation facilities in all schools.

- Special orientation sessions should be held by teachers with all senior girls in schools to educate them on proper disposal of sanitary napkins and monitor the disposal practics.

- To promote cleaning habits after defecation, small buckets should be provided by the school management for all latrines and should monitor its use.

- To improve the cleanliness of latrines in school, the school managements should provide sufficient brooms or brushes and some times cleaning agent such as bleaching powder to students and monitor their cleaning work.

- Importance messages on use of latrine and maintenance shall be written on inside walls of latrines to promote proper usage and maintenance of latrines.

Training

The improper construction, lack of proper use and lack to maintenance are all attributed to the lack of knowledge on design, construction, operation and maintenance of various type of sanitation systems commonly used in schools. To overcome these problems, well developed training for different group of users are recommended.

Urban Sanitation

The rapid urbanization of the Bhutanese townships in particular the two largest towns of Thimphu and Phuentsholing had witnessed the inadequacy of the service facilities notably water and sanitaton by early nineteen eighties. The Royal Goverment of Bhutan recognising the need for such improvement had undertaken a project to implement the first waterborne sewerage system with wastewater treatment plants in the two towns and also a solid waste management project in Thimphu in the early ninetees

In the urban towns wastewater disposal by septic tanks and soakways were the only method of toilet waste disposal and treatment untill the sewerage system was introduced.

Brief information on the Thimphu & Phuentsholing sewerage systems

The Country's first ever piped waterborne sewerage system was constructed in the two most populated towns of Thimphu & Phuentsholing under the DANIDA funding. The Project consists of constructing a complete piped sewer network, and connection of all property sullage and toilet outlets to the sewer system and a sewage treatment plant (waste stabilisation ponds) in each town.

The Project was implemented in December 1993 and completed in June 1996. It serves a total population of 12,000 and 14,000 inhabitants in Thimphu and Phuentsholing respectively. On completion of the project the schemes were handed over to the two City Corporations who are now responsible for the overall management, operation and maintenance of the system. The schemes are run and maintained by a team of engineers who have received on the job training during the construction phase of the project and were later trained on the operation and maintenance of the network and the treatment plant.

The Urban Water & Sanitation Unit under the Public Works Division was responsible for the planning , design and implementation of the project. The present role of the unit is to monitor the system performance and provide technical back stopping to the City Corporations.

The project target of 80% population coverage in Phuentsholing was achieved however the target figure of 60% for Thimphu was not achieved as the population and municipal boundaries had expanded since the time of Project design.

8 7 11

Reasons for the selection of the two towns for sewerage

The two towns were selected to be sewered due to its high housing density and severe sanitary problems. A study carried out in the early eighties by two different groups of consulting firms. from Denmark revealed that the septic tanks in these two towns especially in the core town area were mostly overflowing and leaking leading to poor sanitary situation and a severe health hazard. Stagnating sullage water in the open storm water drain due to clogging from solid wastes was identified as another issue that contributed to the already detorioating sanitary environment.

The criterias for the selection of the sewerage system were:

1. Sullage discharge into the storm drain creates nuisance and health hazard.
2. Soakaway systems become less aceptable as the housing densities increase.
3. Some septic tanks were inadequately constructed and operation and maintenance were found unsatisfactory.

Before and after the Project scenario

Prior to the implementation of the sewerage project, sewage was disposed and treated through individual septic tanks with soakaways for each property. Emptying of the tanks were done manually and the contents that were emptied were thrown into the nearest open storm water drain which were then led into the river, thereby polluting the receiving water body and the surrounding areas. However, only the wastewater from the toilet were connected to the septic tanks and other wastewater from kitchen and bathrooms were led into the open storm drain around the building which in turn are discharged into the public open drains and into the main river.

With the implementation of the sewerage project all wastewater from the toilet as well as the kitchen and bath water are led into the sewer system and conveyed to the wastewater treatment plant. Therefore pollution of the streams and rivers from the discharge of sewage and sullage is eliminated and overflow from the septic tanks were bolished in the sewered area. In the unsewered areas septic tanks are now emptied by a vacuum tanker which collects and discharges the wastewater into the nearest sewer manhole.

Sewerage tariffs

The project also introduced a water and sewerage tariff system in the two towns and the charges were based on the metered consumption of drinking water. A sewerage surcharge of 50% on the water bill is levied to the consumers. The revenue collected from the sewerage surcharge is used for the operation and maintenance of the sewer network and the treatment plant. The rate charged is Nu.1.25/cubic metre (Nu.1= Re.1 Indian) and on top of which a 50% sewerage surcharge is charged. This rate will be reviewed and revised by the City Corporations as and when it is necessary.

Cost of the property connections borne by the Goverment

The cost of all house connections in the first phase of the sewerage project was fully borne by the Royal Goverment of Bhutan. It was on the assumption that this being the first sewerage project in the history of Bhutan people may not be willing to contribute. Although consumer awareness campaigns were started from the begning of the project it took a lot of time and effort on the part of the Project officials and the Goverment to convince the beneficaries of the benefits of the sewerage system. Initially there were lots of resistance from the house owners and many were reluctant to get their property connected to the sewerage system for fear that the system was not going to work and it will fail one day.

Publics attitude and perception of the Project

However as the work progressed public's perception about the project also changed mainly due to the extensive public awareness campaigns. Resistance from the property owners started slowly diminishing and at the final stages of the project the trend was reversed. Property owners who were initially reluctant to have their property connected to the sewerage system were actually coming forward with request to connect their property. And of course many requests have to be turned down due to lack of fund and time constraints.

Goverment's proposal on cost sharing on the property connection in the future

There exists no cost sharing system in Bhutan with regard to disposal and treatment of wastewater from individual house/ property. The property owners are solely responsible for the safe disposal and treatment of their own wastewater with the exception of the sewerage project in Thimphu & Phuentsholing where approximately 800 properties were connected free of charge to the sewerage system. However, with the second phase of the sewerage extension in the two towns already on the pipeline the Goverment's decision is to charge certain percentage of the house connection cost to the property owners. The amount could be either a flat sum or a certain percentage of the total cost of connection (50%).

Communication of benefits, rules and obligations to the beneficaries

The dissimination of project benefits and other informations for the public is the responsibility of the Information Section established within the Urban Water and Sanitation Unit under PWD. This unit conducts regular workshops and meetings with the public to discuss on the issues and benefits of the sewerage system. Sewerage and sanitation bye-laws are also explained to the potential beneficaries during these workshops. The participants represent different sections of the public, goverment and private organisations.

Health campaigns are conducted in collaboration with the Information Education & Communication for Health Division (IECH Bereau) who conducts regular talk shows on relations between waterborne diseases and unsafe sanitation practices through the National Radio the BBS and the National weekly paper "Kuensel" . Skits with themes on health and

sanitation are staged by the school children. In the health campaigns on water and sanitation the target groups are mainly the house wives, community workers and school children.

Sanitary facilities for the poor

One of the main aim of the sewerage project in Thimphu was to connect all the small dwellings behind the vegetable market which was the most polluted among the rest of the town areas. The residents in that area are mostly from the low income group who are illerate small time vegetable sellers. The sanitary condition of the area improved once the area was sewered.

Future sanitary projects in the capital will look into and try to improve the sanitary facilities in the permanent labour camps, the proposal is to construct communal toilets of the pour flush type discharging to septic tank/soakaway or to a sewer system.

Demand for the service:

The demand for the sewerage connections is growing and people now look forward to the extension of the sewer lines to other unsewered areas in the town. To date in Thimphu around 40 properties were given new sewerage connections and around 15 properties in Phuentsholing after the project completion. These properties were connected to the sewerage system at the owners request will and at their own cost. In fact the City Corporation collects a connection fee of Nu.3000.00 per property from the owners.

Achievements of the sewerage project

The following are achievements from the sewerage project in the two towns:

- Improved knowledge of the beneficaries on the relationship between waterborne diseases and the sanitary conditions through the various informations campains carried out during and after the project.

- Clean and safe disposal of the wastewater in the sewered areas.

- Improved river water quality due to less discharge of wastewater into streams from sullage outlets and septic tank overflows.

unresolved issues

Septic tank by-passing is the only and the most major issue in the sewered areas. Septic tanks were retained mainly due to the fact that some organic load in the sewage can be reduced in the septic tank which would then result in the reduction of the treatment plant size and construction cost. However, it is now realised that as long as the septic are not by-passed the risk of leakage from the old and cracked walls will always be there.

Septic tank by-passing will be the next major task for the two city corporation in the next few years. There are about 800 septic tanks that needs to be by-passed in the next few years in the two sewered towns.

Lessons learned

lessons learned from the project are:

- In future all septic tanks should be by-passed.
- More advance information to the public is necessary to avoid delays during implementation of the schemes.
- strict implemnetation of plumbing code of Practice is necessary to avoid the following problems

  - sewer smell entering the building through sullage pipes due to lack of water seal/ traps below sinks and wash basins.

  - lack of gratings in the wash basins and sinks and bathwater outlets allow soild wastes into the sewer pipes causing more load on the treatment plant and also frequent blockages in the sewer lines.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

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Urban Sanitation

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It would be appropriate to mention that the contents of the Paper are the view of the Author and not of the Ministry.

ABREVIATIONS AND ACCRONYMS

1. IDWSSD - International Drinking Water Supply and Sanitation Decade.
2. PHED – Public Health Engineering Department.
3. M/oUA&E - Ministry of Urban Affairs & Employment .
4. M/oE&F - Ministry of Environment and Forest.
5. M/oH&FW - Ministry of Health and Family Welfare.
6. M/oW - Ministry of Welfare.
7. O&M - Operation and Maintenance
8. LCS - Low Cost Sanitation .
9. HUDCO – Housing and Urban Development Corporation
10. NGO – Non Governmental Organistion
11. CPHEEO - Central Public Health and Environmental Engineering Organisation
12. UASB - Upflow Anaerobic Sludge Blanket
13. CPCB – Central Pollution Control Board
14. CMWSSB - Chennai Metropolitan Water Supply and Sewerage Board
15. MLD – Million Litres per Day
16. UWSS – Urban Water Supply and Sanitation.
17. Ha. - hectare

TABLE OF CONTENTS

1.0 Introduction:

Though sanitation includes sewerage, drainage and solid waste management, *this paper* attempts to discuss urban sewerage, drainage and low cost sanitation only.

1.1 Urbanisation in India:

India is the second largest democracy in the world (next to China only) with a population of about 0.85 billion compared to about 5 billion of the world's population. Or, about one sixth of the world's population lives in India. As per mid -1992 estimate[1], the population of India was about 0.88 billion compared to the total world's population of 5.44 billion. However, the GNP per capita in India was US$ 310 only compared to the world's figure of US$ 4280. Thus, the country is in the low-income economies at 18th rank out of the total 132 countries in the world. Presently, the population in India is around 0.97 billion compared to the world's population of about 5.6 billion.

Urban population in India, in 1901 was 26 million or 10.24% of the total population and in 1951 it was 62.4 million or 17.3% of the total population. It has steadily increased to 217.18 million or 25.72% of the country's total population in 1991. The total number of urban agglomerations increased from 1827 in 1901 to 3768 in 1991. That means, while the number of urban agglomerations has increased 2 fold during the past 9 decades, the population has increased 8 fold, indicating that the cities are becoming more and more congested[2]. The trend of urbanisation in India is furnished in Statement-I

Of the 217.18 million urban populations in 1991, 65.2% or about two-third lived in the 300 Class-I cities (having population more than 100,000). Of this, the 23 metro cities (population million +), accounted for about one-third (70.6 million) of the urban population and the four mega cities (population 5 million +), viz. Mumbai, Calcutta, Delhi and Chennai had 37.22 million population. It has been assessed that the urban population in India is likely to be 317.90 million or 30% of the country's population by 31.3.2002. This shows that the urbanisation trend in India is always on the increase.

Though, urbanisation helps contribute to the growth process, it is overshadowed by deterioration in the physical environment and quality of life in urban areas due to the wide gap between the demand and supply of the basic services like safe water supply, hygienic sanitation etc. Most of the urban population is accommodated in slums and squatter settlements. It has been estimated that 21.2% of the urban population lives in slums and in metropolitan cities, the slum population is about 30-40%[3].

1.2 Evolution of Water Supply and Sanitation in India:

Organized water supply systems were attempted first in the three Presidency towns of Calcutta, Bombay and Madras in Eighteen Seventies. In the subsequent decades, measures to secure better health for the people found emphasis on the curative side. A few towns came in for protected water supply, more due to the stress of local urgency and recurring epidemics, than under any organized plan or programme. The responsibilities for health and health measures were transferred by the Central Government to the Provisional Governments, who in turn transferred the same to the local bodies, but the local bodies found it difficult to provide these essential amenities mainly due to shortage of funds and necessary infrastructure.

The Union Government appointed the Environmental Hygiene Committee (1948-49) for an overall assessment of the countrywide problems in the field of environmental hygiene. The Committee in 1949 estimated that roughly 16% of the towns in the country had protected water supplies that served 6.15% of the total population or 48.5% of the urban population and the supplies were around 2 to 40 gallons of water per head per day. Only 35 cities/towns were partially sewered and in most of these towns 33-70% of the total number of premises was served by 'Conservancy'. The Committee recommended a comprehensive plan to provide water supply and sanitation facilities for 90% of the population within a period of 40 years.

The State Governments as a part of their planned development later included the provision for water supply and sanitation facilities. Some headway was made by the States in this direction depending on their financial capability, but it was totally inadequate compared to the overall needs of the situation. Therefore, the States desired that the Centre must step into and help them to proceed with water supply and sanitation schemes. At this juncture, the Union Health Ministry in 1954, announced its National Water Supply and Sanitation programme as a part of the health schemes in the First Five Year Plan and made specific provisions to assist the States in the implementation of urban and rural water supply and sanitation schemes. The spurt of activities stimulated by the Central Government under the First and Second Five Year Plans prompted many State Governments to organize and expand their Public Health Engineering Departments in order to cope with the increasing work load. Due to the concerted efforts of both Central and State Governments, as of 1970, 60.8% and 27.5% of urban population could be provided with safe water supply and sanitation facilities. At the National level, the subject of Water Supply and Sanitation was transferred to the then Ministry of Works and Housing (now renamed as Ministry of Urban Affairs and Employment) in 1973[4].

1.3 International Drinking Water Supply and Sanitation Decade (IDWSSD):

The United Nations Water Conference held at Mar-de-Plata (1976) and the 31st United Nations General Assembly (1977) had emphasized the need for concerted efforts at country level to provide safe drinking water and adequate sanitation facilities to all citizens around the globe in a 10-year time frame. India was a signatory in all these conferences and subscribed to the United Nations resolutions. Accordingly, the Govt. of India launched the International Drinking Water Supply and Sanitation Decade (IDWSSD) programme in the country on 1st April, 1981 with the coverage targets of 100% population with safe drinking water supply and 80% with sewerage and sanitation facilities in the urban areas by 31st March, 1991[5].

However, due to resource constraints the Decade targets could not be achieved. The urban water supply coverage rose from 72.3% in 1981 to 72.9% in 1985 and sanitation coverage rose from 25.1% in 1981 to 28.4% in 1985. Therefore, as per the Mid-Decade review, the Decade targets were scaled down from 100% to 90% for urban water supply and 80% to 50% for urban sanitation [6].

2.0 Present Situation in Urban Sanitation: -

India's Urban Water Supply and Sanitation sector (UWSS) faces many problems in vicious circle, such as,

- Many UWSS providers are not financially viable and are unable to maintain the services without subsidies;
- Existing UWSS services have not reached the entire population due to inadequate funding, especially for the sanitation services; and
- Environmental degradation.

These problems are well understood and there is a general agreement that the traditional approaches has not worked well to solve these problems, because most UWSS managers lack the requisite management skills, autonomy and accountability for their performance. In recent years, a fundamental policy change has started emerging in the country due to the economic liberalisation and financial reform in the UWSS sector is the logical extension of this trend.

During the Decade programme, it was assessed that Rs.37,450.00 million (1980 prices) would be needed to cover 80% of the urban population with sewerage and sanitation facilities by 31st March 1991. However, in the first phase of the Decade programme (1981-85), an amount of Rs.2,041.76 million only was spent in urban sanitation sector with which the coverage marginally increased from 25.1% to

28.4%[6]. The Plan outlay for both urban water supply and sanitation in the Seventh Five-Year Plan (1985-90) was Rs.29, 657.50 million (or 1.65% of the total public sector outlay) and in the two Annual Plans (1990-92), it was Rs.17,213.70 million (or 1.26% of the total public sector outlay). Separate break-up for urban sewerage and sanitation is not available since some of the States do not have such break up. The plan allocation during various five-year plans for urban water supply and sanitation sectors is furnished at Statement-II [7].

The Eighth Five Year Plan (1992-97) Working Group for urban water supply and sanitation sector estimated a requirement of Rs.236,345.50 million to cover 100% urban population with water supply and 75% with sanitation facilities by 31st March 1997, which included Rs.103,350.00 million for urban sanitation. But the total outlay made available for both urban water supply and sanitation during the Eighth Plan was Rs.59,820.00 million only and in case of urban sanitation, the Planning Commission envisaged to raise the coverage from 48% to 69% by providing additional 80 million people with sewerage and sanitation facilities by 31.3.1997 [8]. Due to this curtailed financial outlay, the coverage of urban population with sanitation facilities as on 31st March, '97 was 49%. The State-wise status of urban water supply & sanitation coverage is furnished at Statement-III.

The status of total urban population, population coverage targets and achievements with sewerage and sanitation facilities during different periods is furnished in Table-1.

2.1 Present Sanitation Coverage (by type of technology): -

The information received from the State PHE Depts. Water Supply and Sewerage Boards, Metro Boards etc.,(vide Statement-III) indicates that the coverage of urban population with sewerage and sanitation facilities is 49% and about 57% of the covered population has got access to sewerage system and the remaining 43% have been provided with low cost pour-flush latrines, septic tanks etc. It may be seen from the State-wise coverage that the population coverage with sewerage facilities varies from 0 to 90%, while the national average is about 57%.

3.0 Present Policy of the Government on Urban Sanitation: -

As per the Constitution, the responsibility for provision of drinking water, sewerage/sanitation and drainage facilities rests with the States and local bodies. However, in view of financial constraints and low priority accorded by the local bodies, not much has progress been made in the provision of sewerage, sewage treatment and drainage facilities in urban areas compared to water supply. As a

result, the coverage of urban population with sanitation facilities (including low cost sanitation) at present is only around 50%.

In fact, water supply and sewerage (including sewage treatment) schemes should go hand in hand for achieving health for all. Issues like waste water collection, conveyance, treatment and disposal require a holistic approach. In the absence of an integrated approach for a comprehensive sewerage, sewage treatment and drainage system in line with the increasing trend of urbanisation, there is a visible impact of environmental degradation and health implication.

3.1 Present Contribution to Sanitation by Government Sector :

At the Central level, the Ministry of Urban Affairs & Employment (M/oUA&E) is the nodal Ministry for urban sanitation; the Ministry of Environment and Forests (M/oE&F) deals with matters related to water and air pollution; the Ministry of Health and Family Welfare (M/oH&FW) deals with matter related to environmental health and sanitation and the Ministry of Welfare (M/oW) is in charge of liberation of scavengers.

At State level, the PHE Depts. Water Boards etc. are the specialised agencies, who undertake planning, design and execution of sewerage and sanitation schemes for the cities/towns in the State wherever the municipalities do not have the requisite expertise. The municipality deposits requisite funds with the concerned State agency for execution of the sewerage/low cost sanitation schemes. Once the scheme is completed, it is handed over to the municipality for further operation and maintenance.

For mega cities, an agency like the Metro Water Supply and Sewerage Board, which is a part of the local body having the requisite expertise, plans, designs and executes the sewerage/sewage treatment scheme on its own.

The funds needed for capital investment to execute sewerage and sewage treatment schemes are provided to the local bodies by the State Govt. under the State Plan budget, though the outlay is very less compared to the number of cities, where such schemes are to be implemented.

As regards expenditure on operation and maintenance (O&M) of sewerage systems, it is met from the revenue generated through sewage cess, which is normally a percentage of water tax, say about 20%. As the O&M expenditure of the sewerage system is more compared to the revenue generated through sewage cess, normally it is cross-subsidised from the revenue through water tariff.

In order to supplement the efforts of the State Govts. in providing sanitation facilities, the M/o Urban Affairs & Employment is implementing the Centrally Sponsored Low Cost Sanitation (LCS) programme through HUDCO on 'whole town' basis, by providing a mix of subsidy and loan from the Ministry's budget with a view to convert the existing dry latrines into low cost pour-flush latrines and to completely eliminate manual scavenging and provide alternate employment to the liberated scavengers, which is being dealt with by the Ministry of Welfare.

The M/o Environment & Forests has undertaken the National River Conservation and Lake Conservation Programmes, under which the Ganga Action Plan, Yamuna Action Plan etc. are being implemented for abatement of pollution of rivers and lakes through the schemes viz. interception and diversion of sewers, construction of sewage treatment plants, afforestation etc. These schemes are implemented as a Central sector programme for which funds provided to the State Govts. to execute the schemes. The Ministry also monitors water bodies and land against pollution and undertakes pollution control measures through Central Pollution Control Board at the Central level and State Pollution Control Boards at the State level. For this purpose, the Ministry has enacted the Environmental Protection Act, 1986 and Air Pollution Act, 1984.

3.2 Present Contribution to the Sanitation by Private Sector (Individuals, Householders): -

As regards contribution from individuals and householders for provision of sewerage facilities, nothing much has been forthcoming, since, planning, design and execution of sewerage and sewage treatment facility for a city/ town is the responsibility of the concerned municipalities for which funds are earmarked under the Municipal/State Plan budget. The municipalities enact suitable bye-laws and notify them to the public so as to encourage the individuals and householders to take house sewer connections as and when the sewer network is laid, for which the individuals are required to pay sewer connection charges to the municipality to connect the household toilets to the public sewer. However, in many cities though sewers have been laid, the householders have not connected their toilets to the sewers due to lack of awareness among the individuals and householders about the importance of the water carriage sanitation system. Awareness has to be created through intensive mass campaign through media, TV, etc.

3.3 Present Contribution to Sanitation by NGOs

Contribution by NGOs to sewerage and drainage is not much. Nevertheless, some NGOs play an important role in this regard. For instance, 'Swabhiman', a citizen's initiative launched in 1985, motivates and facilitates organisation of

resident groups to address neighborhood problems and offers a platform to civic authorities, NGOs, resident groups and service providers to share information and work together to improve sanitation services and environment planning and management in Bangalore city (See Box-1).

Likewise, Sulabh International, an NGO started in 1970, has undertaken activities such as construction of sanitary pour flush latrines, construction and O&M of community toilet complexes including bathing and laundry facilities on 'pay and use basis' for the slum and squatter settlements and public places like railway station, bus stand etc. It also promotes bio gas plants and offers vocational training, education and alternative employment for the scavengers.

3.4 Government Policy on Subsidy for Sanitation

The Govt. of India, Ministry of Urban Affairs & Employment through HUDCO implements the LCS programme and provides subsidy to the Economically Weaker Section (EWS) and Low Income Group (LIG) beneficiaries, which encourages them to take the subsidy and loan from the municipality to convert the dry latrines or construct new latrines in their premises. But for the subsidy, the burden on these weaker sections would be much more, which in turn has to be borne by the otherwise financially weaker municipality, if it wants to promote LCS programme. Likewise, subsidy is provided for construction of community latrines, which eases the burden of the municipalities.

The Ministry provides requisite fund in the form of loan and subsidy through HUDCO to the State Govt. who in turn release the subsidy and loan to the municipalities to take up the LCS programme. HUDCO loan is provided at 10.5% gross rate of interest and recovered in 7 years period. . The loan and subsidy is provided to various categories of the beneficiaries in the following manner: -[6]

Category	Subsidy	Loan	Beneficiary Contribution
EWS	45%	50%	5%
LIC	25%	60%	15%
MIG/HIG	Nil	75%	25%

The Coordination Committee set up in the Ministry of Urban Affairs & Employment approves proposals received from the State Govts. No specific amount is allocated State-wise for implementation of the scheme. The amount to be sanctioned depends on the proposals received from the local bodies through the State Govts.

The National River Conservation and Lake Conservation Programmes, under which the Ganga Action Plan, Yamuna Action Plan are implemented by the M/o Environment & Forests for abatement of pollution of rivers and lakes are implemented as a Central sector programme with a funding pattern of 50:50 between the Centre and State Govts. However, O&M of the assets created has to be borne by the State Govts.

4.0 Technologies Used in Urban Context :

Technologies used in providing sanitation facilities in the urban areas include water borne sewerage system in large cities and towns, on-site low cost two-pit pour flush latrines in the fringe areas of larger cities and smaller towns. Wherever no sewerage system is available, people have their own septic tanks with soak pits in their premises to dispose the wastewater. In some cities the sewage is subjected to both primary and secondary treatment before disposal. In others the wastewater is given preliminary treatment only by screening and grit removal.

Unlike the past, nowadays separate sewerage and sewage treatment systems are constructed to collect, transport and treat the municipal sewage; and the sullage and storm-water, is collected, transported through separate storm-water drains in the cities.

The Central Public Health and Environmental Engineering Organisation (CPHEEO), M/o UA&E, has brought out the Manual on Sewerage and Sewage Treatment, in which guidelines for sewerage and different technology options for sewage treatment have been given, which are followed by the State agencies to design sewerage and sewage treatment systems.

The object of sewage treatment is to stabilize the decomposable organic matter present in the sewage to produce an effluent and sludge which can be disposed of in land or water without causing health hazards. The degree of treatment is generally decided by the regulatory agency such as Central/State Pollution Control Board and the extent to which the final products of treatment are to be utilised. The Central Pollution Control Board has laid down standards for the effluent quality.

The technology adopted for treatment of municipal sewage is mostly biological processes, such as suspended growth systems, both aerobic and anaerobic which includes activated sludge process, extended aeration, lagooning, nitrification, denitrification and anaerobic digestion and attached growth process such as aerobic and anaerobic filter process are. The unit operation and processes commonly

employed in treatment of domestic wastewater and the functions and units used is listed in Table-10.1 of the manual on Sewerage and Sewage Treatment. Of late, technologies such as, Upflow Anaerobic Sludge Blanket (UASB), duckweed pond etc., which require comparatively less energy, are being adopted to treat the municipal wastewater. The sludge is digested anaerobically and the sewage gas generated is supplied to the community for cooking and other purposes.

The treated wastewater is used for sewage farming, irrigation, horticulture etc. In some cases, the waste water after secondary treatment is subjected to tertiary treatment after which it is reused by the industries for cooling, air-conditioning etc. In some cases, the sludge from community toilets and other household low cost pour flush latrines is used for production of biogas.

5.0 Success Stories/Experience

5.1 Sewerage and sewage treatment facilities

As per the information received from the State agencies, it has been assessed that 49% of the urban population (vide Statement-III) have got access to sewerage and sanitation facilities as of 31st March 1997 while the coverage in 1991 was about 46% only.

Based on the survey conducted by the CPCB in 1994, out of 300 class-I cities, 160 cities have more than 75% population coverage with sewerage facilities and 92 cities have more than 50% coverage. On the whole, 70% of total population of class-I cities is provided with sewerage facility, compared to 48% in 1988. These 300 cities generate 15772.5 MLD of wastewater, out of which the quantity collected is 11693 MLD (74%), of which only 3740.2 MLD (24%) is treated before disposal. The rest is disposed of untreated. 37 cities have only primary treatment facilities and 34 have primary and secondary treatment facilities. Treated/partly treated or untreated wastewater is disposed of into natural drains/rivers/lakes or on land for irrigation/fodder cultivation or on sea or combination of these.

Under the Centrally Sponsored National River Conservation Plan, the Ministry of Env. &Forest has sanctioned a total of 152 schemes for pollution abatement in 46 towns located along 18 inter-State rivers in 10 States.

5.2 Low Cost Sanitation Programme

As per 1989 survey, there were 5,730,000 dry latrines needing conversion and 7,280,000 new latrines had to be constructed and 400,000 scavengers were to be liberated in 3655 towns all over the country. As of 31.7.1998, the HUDCO has

approved LCS schemes in 1172 towns for conversion of 1,850,000 dry latrines into pour flush latrines and construction of 1,611,000 new latrines and liberation of 121,733 scavengers at an estimated cost of Rs.5,255.50 million in 21 States/UTs. Of this 751,868 units have been completed (conversion +new construction).

5.3 Private Sector Participation:

Though the Govt. of India has recognised that the private sector participation can add to water supply and sanitation services, the high political risk and low levels of cost recovery in India has attracted very little private sector investment in water and sanitation sector. For instance, one of the reasons for the failure of the attempt to have a BOT contract for a new water treatment plant in Hyderabad was that the private operators bid for tariffs were far higher than expected. However, there is some success stories too, as in case of Chennai, where the sewerage service has been successfully contracted out.

Chennai Service Contracts: In Chennai, the operation and maintenance (O&M) of 14 sewage pumping stations was contracted out in 1992. The success of this contract led to further contracting out of an additional 61 pumping stations, on a mixture of two and three year contracts. In addition, the O&M of four water boreholes have been contracted out and it is planned to extend this to a new water treatment plant and a new sewage treatment plant. The contracted out stations have achieved cost savings of 45-65%, This has been achieved without any compulsory redundancies; instead, the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) has redeployed excess staff to vacancies resulting from retirement elsewhere within the organisation.

5.4 Community Consultation and Participation

Several programmes and NGO efforts have focussed on evolving community participation in planning and management of sanitation services and some important lessons have been learnt through these efforts, which are:

- Efforts which have relied on seeking appropriate technology solutions at the local level with intensive community participation to select the most preferred alternative are likely to be the most successful;
- Developing strong community based organisations is necessary for involving the community in local planning and management, for which the women can play an important role. The experience in India of urban basic services for the poor and works of NGOs such as SPARC, SEWA illustrate this;
- Involvement of different stakeholders, such as, local industrialists as in Ahmedabad, NGOs, local groups of women and children, community workers

etc. helps to improve transparency, effectiveness and efficiency of the service provision.

6.0 New Approaches/ Strategies

The new strategy for minimising the problems faced by the UWSS agencies should aim towards changing the present conditions through appropriate democratic decentralisation and governance, ownership and management structure and appropriate financing structure. The key elements of the incentive-based approach[10] are;

- Democratic decentralisation – by giving municipalities more autonomy to make choices in the interests of the community;
- Commercialisation of the UWSS agencies and private sector participation – commercialisation motivates the managers to operate the systems efficiently;
- Market-oriented financial systems - which will promote financial viability and efficiency in utilising the resources, mobilised on market terms.

6.1 Empowerment through Democratic Decentralisation and Institutional Reform

Gradually, the State Governments have taken over responsibility for many traditional municipal functions including development of urban water supply and sanitation infrastructure reducing the status and powers of municipalities. An appropriate strategy for reviving their status and improving the provision of water and sanitation services is by empowering the municipalities through democratic decentralisation by devolving the functional responsibility for execution and operation and maintenance of the sewerage and sanitation systems to municipalities. The municipalities may discharge their functions in many ways; through a municipal department, a contract with a state utility or a private provider, or joint contract with several municipalities. This should be accompanied by good practices like, preparation of long-term master plans, inter-municipal cooperation, customer consultation etc. The approach paper to the Ninth Five-Year Plan states that "The responsibility for planning, operation and maintenance of the urban facilities will be passed on, wherever not done, to the local bodies, in line with the 74th Amendment to the Constitution". Thus, the gradual implementation of the 74th Amendment will revive powers and functions to the municipalities.

The State level agencies also need to be reformed, though the elements of reform will vary from State to State, which will include, unbundling of functions such as bulk supply, operations and technical services and corporatisation of disaggregated entities. The new water utilities must have full autonomy for

oraganisational, managerial and financial functions so that they can operate like commercial entities.

A three-pronged approach may be appropriate to implement the strategy, such as, (i) systemic changes needed to operationalise the incentive based approach; (ii) locally-led incremental and opportunistic innovations; and (iii) demand based capacity building through technical assistance and capacity building[10].

6.2 Mobilisation of resources and financial reform:

India is still a developing country, where the resources are scarce while the funds needed for various developmental activities are enormous. In this context, in addition to full cost recovery, mobilisation of funds through various channels is the need of the hour.

Rational tariff structure for the water and sewerage services is a pre-requisite for financial viability of UWSS agencies. They should have full autonomy to formulate tariffs to ensure full cost recovery and revise it periodically to meet increase in cost. For accessing new financing channels, project preparation and appraisal skills need to be improved. Financial reforms should also include development of a community credit system and direct borrowing from the capital market along with debt-market scrutiny to enable greater efficiency and transparency. One example of direct borrowing is floating of Municipal Bonds as has been done in the USA.

The recent trend in decentralisation in India and the interest of local bodies in issuance of municipal bonds suggests its possible relevance. The potential for this system is evident from the well-developed tax exempt municipal bonds system in the USA, where it finances a large portion of the capital investments for infrastructure. In India, municipal governments as well as State/Metro level water supply and sewerage boards can issue municipal bonds to meet their capital investment needs to undertake infrastructure projects such as water supply, sewerage etc. However, for borrowing by municipal authorities, an appropriate regulatory framework with a mandatory credit rating, appropriate disclosure norms and adherence to strict finance norms will have to be introduced. At present some municipal legislation, such as the Bombay Municipal Corporation Act, provides for such limits in relation to the total property assessment. Other measures linked more to the actual financial performance of the agency, such as a cap on the debt service ratio, may have to be introduced.

7.0 Future plans/ programmes to increase the coverage

7.1 Approaches

The Working Group on Urban Water Supply for Ninth five-year Plan has recommended the following strategies to increase the coverage in urban sanitation:

i) As the availability of plan funds are too inadequate compared to the requirement of the sector, it is necessary to adopt the principle of full cost recovery with an element of subsidy to the urban poor.

ii) Water supply and sanitation agencies including local bodies may be given full autonomy to determine tariffs with provision for automatic annual increase to cover increase in costs. The State Govts. should confer more autonomy to the water agencies in financial management and operational issues. Separate accounts should be maintained by urban water supply and sanitation agencies.

iii) As a follow up of the 74th Constitutional Amendment, the State Finance Commission should explicitly indicate the norms, assess the requirement of funds and make suitable recommendations for provisions of finances by different categories of towns.

iv) Reuse of treated sewage for horticulture, flushing of sewers and toilets, air-conditioning, cooling and other industrial uses must be introduced to conserve fresh water and reduce pollution in the receiving water bodies.

v) Incentives in the form of rebate on water cess and other taxes should be considered for the quantum of fresh water conserved by the industries through recycling and reuse of effluents.

vi) Toxic and hazardous industrial and hospital wastes should be collected separately and disposed off in a hygienic manner.

The Planning Commission, Government of India in its approach paper to the Ninth five-year Plan (1997-2002) has mentioned in case of urban sanitation that:

i) Consistent with the goal for health for all, efforts will be made to provide reasonable level of sanitation to the entire urban population during the next 5 years.

ii) Efforts made during the Eighth Five-Year Plan to abolish manual scavenging will be continued to complete the task during the Ninth Five- Year Plan.

iii) Special attention will be paid to management of urban wastes, both liquid and solid, for enhancing the level of sanitation and converting waste into useful wealth.

iv) The responsibility for planning, O&M of the urban facilities will be given to the local bodies in line with the 74th Amendment to the Constitution.

v) Efforts will be made to develop alternate means of funding of urban sanitation facilities to reduce the dependence on budgetary assistance and to enhance the financial viability of the sector through full cost recovery to promote resource mobilisation through institutional finance, market borrowings, private investment etc.

vi) Subsidies for the urban poor should be selectively targeted and transparent to ensure that there is no undue cross subsidy from other sections.

vii) Emphasis will be made on cost effective and eco-friendly technologies in providing the services in the urban areas.

To increase the sanitation coverage, specific action plans are needed towards institutional and financial reforms. Since the conditions and readiness are different among the States, it inappropriate and difficult to propose a common plan. Each state should consider its options, develop a statewide consensus and prepare its own action plan through a consultative process with important stakeholders.

The Central government's role would be indirect to facilitate and encourage state governments to undertake the reforms and evolve appropriate strategies. The Central government should disseminate examples and expose municipal specialists to best practices from India and other countries, develop and provide standard formats and model legislation to leverage the limited govt. resources through appropriate mechanisms.

The State government should be a facilitator and enabler. The State UWSS strategy should involve legislative amendments for good municipal practices and tariff rationalisation, multi-municipal schemes for smaller municipalities, demand-led technical assistance and training plan.

The Municipal governments should focus on implementing good municipal practices, such as, professionalisation of management, consumer consultation, tariff reforms and long-term planning.

7.2 Targets

With a view to provide adequate sanitation facilities to additional 210 million rural and 257 million urban population in the country by 2007 AD, a comprehensive National Programme on Sanitation and Environmental Hygiene on the lines of Technology Mission was evolved under various on-going programmes of Government of India and State Govts.

A Group of Central Ministries and some State Govts. identified six sub-mission areas and submitted its report on National Mission on Environmental

Health and Sanitation. Of the six sub-mission areas, Urban Low Cost Sanitation (ULCS), Urban WasteWater Management (UWWM) and Urban Solid Waste Management (USWM) fall under the purview of Ministry of Urban Affairs & Employment.

The report envisaged long-term measures for 2025AD and short-term measures i.e. Phase-I for 5 years. The estimated requirement of funds for long-term measures is Rs.2,158,000.00 million and that for short-term measures is Rs.461,167.20 million as indicated in the Table-2. The Working Group on Urban Water Supply and Sanitation for the Ninth five-year Plan (1997-2002) took cognizance of the requirements and made recommendations accordingly.

It is true that the problem is gigantic and as such cannot be tackled in one go. Therefore, it is necessary to phase out the programme conveniently by according due priority to the most urbanised/rapidly growing towns of the country in the first instance.

Keeping in view the gravity of the situation and resource constraints, the Working Group on Urban Water Supply and Sanitation for the Ninth Five Year Plan has recommended that 100 cities with population range between 300-4000 thousands (as per 1991 census) and State capitals may be taken up for providing sewerage and sewage treatment facilities during the Ninth Five Year Plan on a priority basis to benefit 60 million population (about 29% of urban population) in these cities. In all these 100 cities, problems of flooding, land erosion, increased transmission of vector borne diseases, etc. would also be addressed simultaneously. As such, provision of proper surface drainage facilities has also been included.

The estimated requirement of funds to tackle the sewerage, sewage treatment and drainage problems in the aforesaid 100 cities during the Ninth Five Year Plan is Rs.180,080.00 million as suggested in the report of National Mission on Environmental Health and Sanitation under the Sub-Mission "Urban Waste Water Management". However, the above mentioned target is yet to be finalised by the Planning Commission.

7.3 Priority focus

While the Ninth Plan objective is to provide 75% urban population adequate sanitation facilities, priority focus should be on the following areas:

i) Hitherto emphasis was given by the States and local bodies for provision of water supply facilities due to which the service coverage with sewerage and sanitation facilities in the cities/towns is less than 50%. Therefore, the States

and local bodies should give priority for planning and implementation of sewerage and sanitation schemes for the cities/towns.

ii) The implementation of sewerage and sanitation schemes should be taken up in the most urbanising cities/towns followed by other cities.

iii) Separate accounts should be maintained for the capital and O&M outlays and expenditure for the sewerage and sanitation services as most of the States and municipalities do not maintain separate accounts in this regard.

iv) For the uncovered population on-site disposal systems such as the low cost pour flush latrines are most appropriate and affordable. Therefore, the LCS programme of the M/o UA&E through HUDCO should be continued with more funding and involvement of all the States and local bodies so as to fulfill the target of elimination of manual scavenging.

v) Intensive mass campaign is necessary to educate the community about the benefits of proper sewerage and sanitation facilities. The public should be encouraged to connect their household toilets with the sewerage systems, wherever it is existing.

vi) Existing sewers, which are worn-out and overflowing, should be cleaned and maintained properly so as to avoid insanitary conditions.

vii) Wherever sewerage system exists without sewage treatment facility, immediate action is needed for construction of sewage treatment plants to treat the sewage before disposal.

viii) A study conducted on the performance of the sewage treatment plants in the country has revealed that many of them are not functioning due to lack of funds and adequate trained manpower. Therefore, such plants should be repaired and restored. Besides, adequate fund for operation and maintenance of sewerage network and sewage treatment plants has to be earmarked by the municipalities. Also, the technicians in charge of the O&M should be given proper training and incentive to increase their capability.

In addition to the above, other issues to be considered in respect of sewerage, sewage treatment, recycle and reuse etc are discussed in the following paras:

Sewerage and Sewage Treatment:

While planning the sewerage system for a city, rarely the individuals or householders are consulted. But in case of low cost sanitation, some of the municipalities consult the community with the help of ward level and other community representatives to select the site for construction of two pit pour flush latrines.

High costs of conventional sewage treatment methods have kept most of the cities in the country away from installing them. Hence, recent initiatives in

anaerobic treatment processes as well as improved approaches in oxidation, pisciculture, aquaculture, land treatment etc. in the treatment of wastewater and its application should be pursued extensively.

Besides, emphasis is to be laid on low cost treatment technologies, such as Up-Flow Anaerobic Sludge Blanket (UASB) system, duckweed pond, use of raw sewage for afforestation based on Karnal technology etc. Likewise, emphasis is also to be laid on the resource recovery from sewage effluents to minimize the cost of operation and maintenance and maximise the revenue generation by use of treated sewage for irrigation and aquaculture and sale of sludge for manure and bio-gas generation for producing electricity and domestic fuel.

Storm water drainage:

The sullage water generated from the cities and towns is transported and disposed of through the storm water drains into water bodies or land without much treatment as it contains less BOD. Though most of the cities and towns have got storm water drainage system for disposal of sullage, they are either inadequate compared to the size of the city or not maintained properly. The drains are filled with solid wastes, because people dump them indiscriminately on the lanes and streets, which in turn reach these drains causing blockage and insanitary conditions and health hazards. Therefore, the existing storm water drains should be properly cleaned. Simultaneously, effective solid waste management programme should be introduced along with people's participation and awareness.

Storm water drainage is the most urgent need in urban slums and in low-lying areas, because houses in such areas are often built on unsuitable land. Also houses built on steep hillsides are subject to erosion and landslides. Many major cities in the country are along the coasts and on the estuaries of rivers, which serve as commercial arteries for transport of goods. It is the coastal regions of the world that have the highest average rainfall, and the estuarine terrain having impermeable alluvial soils make drainage more difficult. Rainwater is not the only problem. Leaking water mains, wastewater from washing, bathing, and sewage from overflowing septic tanks and blocked sewers constitute health hazards, damage buildings and cause flooding, if an adequate drainage system does not exist.

Good urban planning can help to avoid aggravation of these problems. One of the simplest planning measures is to set out regular plots before house building starts in an area, leaving space for well-aligned roads. Adequate road width and alignment will make it much easier to build sewer lines and drains when they are needed later. Site and service schemes are expensive and take a long time to plan and implement, but a "site only" scheme should be within the means of any

municipality. Once the overall layout of a neighborhood has been planned, residents can be shown how to set out individual rectangular plots with a tape measure. Some degree of discipline over house building is necessary to ensure that plot boundaries are observed and to prevent houses from obstructing existing sewer lines and drainage paths or from occupying land needed for future sewer lines and drainage works. The residents themselves can enforce this discipline.

The development of residential areas can increase sewerage and drainage problems in other ways. As vegetation is removed, the capacity of the ground to retain water and resist erosion is reduced. The increase in area covered by roofs and road surface diminishes the area of ground into which water can infiltrate, leaving a greater volume of water to be removed by drainage. When low-lying areas are filled in for housing, the result may be flooding in other areas. Therefore, while developing sites for housing etc. adequate space should be earmarked for parks and open spaces and low-lying areas and natural drainage channels should be left undisturbed.

Recycle and reuse:

Recycling and reuse of wastewater is another aspect of environmentally appropriate water management but this depends very much on pricing. For instance the towns along the Ganga, the price for extraction of water from the river is so low that there is no incentive for economy in the use of recycled wastewater. On the other hand, in cities like Chennai, where water is scarce, and factories use recycled sewage. In Bombay, the cost of treated water for industry is so high for some factories that they resort to recycle the municipal sewage. Therefore, larger cities should create environment to encourage industries to recycle and reuse wastewater to minimise freshwater requirement and reduce pollution load.

Municipal wastewater contains nutrients, which if not optimally reused, may cause eutrophication in the receiving water bodies causing their premature aging. Instead of directly disposing the wastewater into receiving bodies it can be used for irrigation/fodder cultivation. In many Indian cities, the treated or untreated sewage is used for fodder cultivation by governmental and non-governmental agencies. The economic value of sewage can be assessed based on its nutrient value and also water value, which is given in Box-2.

* * * *

BOX-1

'Swabhiman', a Citizen's Initiative[10]

Swabhiman, a citizen initiative launched in 1985, motivates and facilitates organisation of resident groups to address neighborhood problems and offers a platform to civic authorities, NGOs, resident groups and service providers to share information and work together to improve sanitation services and environment planning and management in Bangalore city.

At the city level, the core group is the broad stakeholder committee, which includes representatives from Bangalore City Corporation, Bangalore Development Authority, prominent NGOs, resident groups etc. The group has the responsibility for assessment of situation, strategy formulation, plan for joint action, consultation and coordination of work undertaken by member organisations. At the neighborhood level, the resident group takes responsibility to identify priorities and seek people's participation to address local problems. Its representatives participate in deliberations and activities of the core group. The activities undertaken by the Swabhiman movement is in solid waste management in 35 different localities of the city, consultation on investment and development plans, demonstration project, performance monitoring of authorities etc.

BOX-2

Economic Value of Sewage[9]

The nutrient value of sewage in terms of nitrogen 30 mg/l, phosphate 7.5 mg/l and potassium 25 mg/l, have been adopted in assessing the fertilizer value of sewage based on actual analysis of samples collected at Warangal city under the project of "Godavari Action Plan" sponsored by CPCB. [9] The values are found to be in agreement within the range given in CPHEEO manual.

The total value of nutrient in sewage assuming a rate Rs.4000/- per MT of nutrient works out to Rs.3.943 millions/day. The total annual economic value of sewage generated from class-I cities, assuming that there is no loss of nutrient after treatment, works out to Rs.1,611.9 millions (Rs.1439.2 millions towards nutrient plus Rs.172.7 millions towards the cost of water).

A realistic sewage tariff for sewage supplied for farming should be considered, based on the cost of nutrients apart from the cost of water supplied. At present, the average cost of sewage supplied is about Rs.188ha. /annum, which is the cost of irrigation water only. If the nutrients in sewage are also considered then and additional cost of Rs.250/MLD or Rs.1250/ha. /annum should be levied for application levels of 500 cm per hectare per annum and tariff should be levied at Rs.1438/hect/annum (Rs.1250 + 188) on cultivators.

Table-1

Status of Urban Sanitation

(Population in Million)

Year	Census/Estimated Urban Population		Target		Population covered with sewerage/sanitation	
			Popln.	%	Popln..	%
1970	109.114		NA	NA	30.00	27.50
1981	159.815		NA	NA	40.03	25.04
1985	174.551		NA	NA	49.56	28.40
1991	217.177	#	108.59	50	99.90	46.00
1993	228.772		NA	NA	114.18	49.91
1997	266.57	x	184.76	69.31	133.28	50.00 @

Target set for IDWSS Decade programme
@ Tentative coverage
x Target envisaged as per Eighth Plan document.
NA – Not available

Table-2

Funds Requirement for Providing Environmental Health & Sanitation Facilities[7]

(Rs.in millions)

S.No	Item	Long-Term Plan (2025 AD)	Short-Term Plan (5 Years)
1.	Low cost sanitation	284,800.00	60,570.00
2.	Sewerage and sewage treatment	843,500.00	180,080.00
3.	Solid waste management	52,300.00	8,500.00
4.	Surface drainage	272,200.00	included under 2 above
5.	Institutional capacity building	130,500.00	-do-
6.	Human resource development	435.00	-do-
7.	Rural environmental sanitation	385,000.00	59,090.00
8.	Strengthening of health surveillance and support service	11,100.00	2,327.20
9.	Industrial waste management and air pollution control	177,800.00	150,600.00
Grand Total		**2,157,535.00**	**461,167.20**

Say Rs.2,15,800.00

STATEMENT-1

TRENDS OF URBANISATION IN INDIA

(Population in millions)

Census year	Number of UAs/Towns	Total population	Urban population	Urban population as %age of total population	Decennial growth rate of urban population %
1	2	3	4	5	6
1901	1827	238.396	25.852	10.84	-
1911	1815	252.093	25.941	10.29	0.35
1921	1949	251.321	28.086	11.18	8.27
1931	2072	278.977	33.456	11.99	19.12
1941	2250	318.66	44.153	13.86	31.97
1951	2843	361.088	62.444	17.29	41.42
1961	2365	439.235	78.936	17.97	26.41
1971	2590	548.159	109.114	19.91	38.23
1981	3378	683.329	159.462	23.34	46.14
1991	3768	844.324	217.178	25.72	36.19

Source : Census of India - 1991, Series-1

STATEMENT-II

PLAN WISE INVESTMENT - URBAN WATER SUPPLY AND SANITATION SECTOR

(Rs.Millions)

Sl.No.	Plan period	Total public sector plan outlay	Plan outlay for urban water supply and sanitation sector	
			Amount	% of public sector outlay
1	2	3	4	5
1	I Plan(1951-56)	33600	430	1.28
2	II Plan(1956-61)	67500	440	0.65
3	III Plan(1961-66)	85730	893.7	1.04
4	3 Annual plans (1966-69)	66649.7	N.A.	N.A.
5	IV Plan(1969-74)	159020	2820	1.77
6	V Plan(1974-79)	393034.9	5494.4	1.4
7	Annual plan (1979-80)	125496.3	1979.3	1.58
8	VI Plan(1980-85)	975000	17666.8	1.81
9	VII Plan(1985-90)	1800000	29657.5	1.65
10	2 Annual plans (1990-92)	1370331.5	17213.7	1.26
11	VIII Plan(1992-97)	4341000	59822.8	1.38

Source : Report of the Working Group on Urban Water Supply and Sanitation Sector for Ninth Five Year Plan(1997-2002)

Sheet1

STATEMENT-III

MINISTRY OF URBAN AFFAIRS & EMPLOYMENT
C.P.H.E.E.O.

STATUS OF URBAN SANITATION IN INDIA

(STATUS AS OF 31.3.97)
(POPULATION IN '000)

Sl. No.	NAME OF STATE/U.T.	ESTIMATED POPLN. AS OF 31.3.97	POPULATION PROVIDED WITH SEWERAGE AND SANITATION FACILITIES				Percent popln. provided with	
			SEWER	L.C.S	TOTAL	%	Sewer	L.C.S
1	2	3	4	5	6	7	8	9
1	ANDHRA PRADESH	16937	2835	3103	5938	35%	48%	52%
2	ARUNACHAL PRADESH	226	0	194	194	86%	0%	100%
3	ASSAM !	4239	14.89	258	272.89	6%	5%	95%
4	BIHAR #	11892	550	6364	6914	58%	8%	92%
5	DELHI #	10300	4500	3000	7500	73%	60%	40%
6	GOA	504	51	19	70	14%	73%	27%
7	GUJARAT	16810	10871	348	11219	67%	97%	3%
8	HARYANA	3705	1850	373	2223	60%	83%	17%
9	HIMACHAL PRADESH	546	126	110	236	43%	53%	47%
10	JAMMU & KASHMIR #	2030	182	13	195	10%	93%	7%
11	KARNATAKA	14172	7739	5036	12775	90%	61%	39%
12	KERALA	7680	287	5323	5610	73%	5%	95%
13	MADHYA PRADESH !	17800	965	435	1400	8%	69%	31%
14	MAHARASHTRA	34309	17020	4983	22003	64%	77%	23%
15	MANIPUR #	548	0	68	68	12%	0%	100%
16	MEGHALAYA !	481	20	108	128	27%	16%	84%
17	MIZORAM	445	0	356	356	80%	0%	100%
18	NAGALAND #	214	0	9.28	9.28	4%	0%	100%
19	ORISSA	4407	417	0	417	9%	100%	0%
20	PUNJAB	4202	2052	750	2802	67%	73%	27%
21	RAJASTHAN #	10864	650	6455	7105	65%	9%	91%
22	SIKKIM	195	35	68	103	53%	34%	66%
23	TAMILNADU	26600	7120	2756	9876	37%	72%	28%
24	TRIPURA	428	0	200	200	47%	0%	100%
25	UTTAR PRADESH ^ !	29837	5935	3957	9892	33%	60%	40%
26	WEST BENGAL	18495	3332	5950	9282	50%	36%	64%
	TOTAL STATES	237866	66551.89	50236.28	116788.17	49%	57%	43%
	UNION TERRITORIES							
1	A & N ISLANDS #	90	0	77	77	86%	0%	100%
2	CHANDIGARH	722	722	0	722	100%	100%	0%
3	DADRA & NAGAR HAVELI	40	0	38	38	95%	0%	100%
4	DAMAN & DIU	31.2	0	0	0	0%	0%	0%
5	LAKSHADWEEP	37	0	14	14	38%	0%	100%
6	PONDICHERRY	526	200	200	400	76%	50%	50%
	TOTAL U.T.s	1446.2	922	329	1251	87%	74%	26%
	GRAND TOTAL	239312.2	67473.89	50565.28	118039.17	49%	57%	43%

REMARKS:

- The figures for these States/U.T.s are that of 31.3.93
! - The figures of sanitation coverage in these States are as of 31.3.93
^ - In case of Uttar Pradesh the figures of water supply are as per town wise information

List of References

1. World Development Report 1994, Infrastructure for Development, World Development Indicators published by the World Bank.

2. Base-cum-Issues Paper, Urbanisation in India- Patterns and Perceptive for National Seminar on Future Cities-Urban Vision-2021 by National Institute of Urban Affairs, 1997

3. Record Note for Discussions of the All India Meeting on State Urban Development Strategy, Housing and Urban Development Programmes, prepared by Ministry of Urban Development, 1994.

4. Background Material for Conference of State Secretaries, Chief Secretaries and Heads of Implementing Agencies in charge of Urban Water Supply and Sanitation prepared by CPHEEO, M/o. Urban Affairs & Employment in December 1997.

5. National Master Plan-India, International Drinking Water Supply and Sanitation Decade, 1981-90, Ministry of Works & Housing, 1983.

6. International Drinking Water Supply and Sanitation Decade, Mid-Decade Review, October 1985.

7. Report of the Working Group on Urban Water Supply and Sanitation Sector for Ninth Five Year Plan (1997-2002), by Ministry of Urban Affairs & Employment, 1996.

8. Eighth Five Year Plan Document, Water Supply and Sanitation, by Planning Commission, Govt. of India.

9. Draft Report on the Status of Water Supply and Wastewater Generation, Collection, Treatment and Disposal in Class-I Cities, prepared for Central Pollution Control Board, 1994-95.

10. World Bank – India Water Resources Management Sector Review, Urban Water Supply and Sanitation Report, June 1998

INDIA - RURAL (6.1.4)

COUNTRY STATUS PAPER: INDIA

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1.0 INTRODUCTION.

The concept of sanitation was earlier limited to disposal of human excreta by cesspools, open ditches, pit latrines or bucket systems. Today, it connotes a comprehensive concept which includes liquid and solid waste disposal; food hygiene; personal, domestic as well as environmental hygiene.

It is well established that there exists a direct relationship between water, sanitation and health. Inadequate provision of safe drinking water, improper disposal of human excreta, solid and liquid wastes leading to unfavourable environmental conditions and the lack of personal and food hygiene, have been the major causes of killer diseases in many countries, including India. The sanitation coverage in India is unsatisfactory and is estimated to be at par with countries like Niger and Afghanistan .

1.1 BACKGROUND AND PROGRESS IN SANITATION

Although the concept of sanitation has undergone qualitative changes over the years, there has been hardly any change in the sanitary conditions in rural India. During pre-independence days, some efforts were made to improve the sanitary condition in the villages. In general, sanitation has made a slow progress compared to the RWS (Rural Water Supply) programmes.

In 1954, a Sanitation Programme (SP) was introduced in the Health Sector of the Government of India. Greater emphasis was put during the International Water Supply and Sanitation Decade that started in 1981 and it was envisaged that 25% of rural population would be covered during the decade ending March, 1991. The year 1985 witnessed the transfer of Rural Sanitation (RS) as a subject from the Ministry of Urban Development to the Department of Rural Development. In the year 1986, the Department of Rural Development was made the nodal department for co-ordinating the programme for sanitary latrines. In the same year, a programme was launched to construct one million sanitary latrines to be provided in houses for disadvantaged sections under the GOI's major rural housing programme, the Indira Awas Yojana (IAY); and to provide 2,50,000 additional latrines to health sub-centers, schools, Panchayat[1] ghars and

[1] Village Council

anganwadis[2] etc., under the NREP (National Rural Employment Programme) and the RLEGP (Rural Landless Employment Guarantee Programme). During 1987, RS programmes were included in the budgets of the provincial governments for the first time as an essential component of the Minimum Needs Programme (MNP).

1.2 Under the Central Rural Sanitation Programme (CRSP) which was launched in 1986, it was decided to provide fully subsidised sanitary latrines to socially disadvantaged families and people below the poverty line[3]. Subsidy was also made available to the general public by some states.. The Central assistance under the programme was subject to matching provisions/expenditure by the State Governments. The criteria for allocation of funds to States/UTs[4] was linked to the rural population (50% weightage), rural area (20%), incidence of poverty (20%) and spill-over problem villages (10%). It was decided to construct 'Two Pit Pour Flush Water Seal Latrines (TPFL)' at an estimated cost of about Rs.1200 per latrine. The cost of latrine, however, varied from State to State.

1.3 During the year 1990-91, the criteria and norms under CRSP were modified in the light of the past experience. It was decided that out of MNP funds, the State would provide an amount at least equal to 1/3rd of central assistance. For state- wise allocation of funds, weightage was given to incidence of poverty (50%), rural population (40%) and recognised hill States and the hilly areas on the basis of population (10%). The cost of a latrine for individual household was fixed at Rs.2,500. Contribution from the beneficiaries was taken at 20%, 15% and 10% with reference to minimum demand for 20,50 and 100 units respectively. Contribution from the disadvantaged groups was lower, 5% and could be in the form of labour/kind/cash. Based on the experience gained in the past and the recommendations of the first National Seminar on Rural Sanitation held in September 1992, the programme was reviewed to work out the new strategy for VII Plan. The CRSP guidelines were revised in 1993.

1.4 Though Cabinet approval was accorded to the Centrally Sponsored Rural Sanitation Programme (CRSP) in 1986, real work in the sector began in 1993. The 1995 programme envisaged an integrated approach to rural sanitation and inter alia included the construction of individual sanitary latrines, the conversion of dry latrines into low-cost sanitary latrines. Construction of village sanitary complexes for women, establishment of rural sanitary marts, total sanitation of villages and the organisation of intensive Information, Education & Communication (IEC)/health education campaigns. The scheme provided for matching contributions from the state and the central government for individual latrines. Provision was also made for beneficiary contribution to the extent of 20% with the balance 80% being equally met by the state and the centre. Village sanitary complexes were funded on a 35:35:30 basis respectively by the centre, state and the beneficiaries. Total Sanitation Plans for individual "model" villages has a 25:25:50 funding pattern, 10% of the allocation was earmarked for awareness generation campaigns and IEC, while 3% was allowed for administrative charges.

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[2] Child nutrition and pre-school centres

[3] Periodically determined on the basis of minimum consumption expenditure

[4] Union Territories-regions directly administered by the Central Government

This sums up the history and evolution of the Centrally Sponsored Rural Sanitation Programme.

We now embark on a more detailed discussion of the issues facing the RS sector in India. We propose to do so in five parts. Part I introduces the subject and provides an assessment of the present coverage status and the 9th Plan targets. Part II discusses Rural Sanitation (RS) programmes using field experience gathered during the past five years and tries to identify the constraints hampering RS implementation. Part III identifies the policy implications arising out of the foregoing analysis. Part IV outlines the proposed changes in programme content and in the manner of implementation. Part V concludes.

Part I

2.1 Rural sanitation figures prominently in the National Agenda for Governance. At present, the extent of sanitation coverage in India is estimated to be around 16-20% of all rural households. This figure is one of the lowest in the world, at par with countries like Niger and Afghanistan and possibly lower than Bangladesh. The absence of safe sanitation contributes significantly to the poor quality of life as reflected by well- accepted indicators like infant mortality rates and morbidity rates. According to the Ministry of Health, around 7,00,000 children die each year due to diarrhoea and other water/sanitation related diseases. Surveys (IIMC, 1996)[5] show that rural people spend at least Rs.100 each year for the treatment of water/sanitation related diseases. Thus the direct cost on the rural population comes to about Rs.67 billion. Add to this, the indirect costs of cost working days due to repeated episodes of diarrhoeal diseases and the total imputed loss is likely to be in the range of Rs.10 billion. Improving the state of rural sanitation would obviate the need for such huge expenditure by the rural population to a large extent. The benefits would also reduce the children's deaths, which is quite obviously unquantifiable.

2.2 Substantial progress has been made since 1993. Around 4 million sanitary toilets have been constructed under CRSP and Minimum Need Programme (MNP). The total CRSP outlay during the 8th Plan was Rs.2300 million, the MNP outlay, Rs.5070 million and the total expenditure was Rs.6402 million. In fact, there was a significant step up n the physical progress during the 8th plan as compared to all the previous plans put together.

Current status of rural sanitation in India

2.3 Estimates regarding the extent of Sanitation Coverage (Scov.) in the rural areas vary widely.
The Planning Commission's Working Group on Rural Water Supply & Sanitation (WG) had estimated in 1996 that around 25%[3] of the rural population (674.8 million approx.) had access to

[5] Baseline Survey, Indian Institute of Mass Communication, New Delhi, 1996.

properly constructed sanitary latrines, equivalent to 169.7 million rural population (RP) or 30 million rural house holds(RHH).

The Draft Ninth Plan (DNP) document, however, puts the coverage figure at 16% inclusive of all government and non-government initiatives. (Implying thereby that around 108.2 million rural population in 19.2 million rural households have sanitation coverage).

Table 1 below gives the estimates for coverage through various sources like the NSSO, the Planning Commission, the NCAER, and the NFHS.

Table 1

	Year	Extent of Sanitary Coverage
Planning Commission	1985	7.2% of 1981 RP=37.8 million
NSSO(National Sample Survey Organisation)	1989	11% of 1981 RP=57.8 million
Census	1991	9.5% of 1991 RP=60.7 million
NFHS (National Family Health Survey)	1992-93	12.9% of 1991 RP=82.4 million
NCAER (National Council of Applied Economic Research)	1994	15.3% of 1991 RP=97.7 million
Planning Commission Working Group Rural Sanitation (WG)	1996	25% of 1991 RP = 169.7 million
Draft Ninth Plan(DNP)	1998	16% of 1997 RP = 108.2 million

2.4 The Working Group had recommended that the government strive to cover 75% of the rural population through sanitary facilities by the end of the 9th Plan(2002).
This was based on its earlier assessment regarding the existing coverage level of 25%. The incremental 50% were to be attained in a 2:1 ratio by the government and the non-government sectors (23.8 million RHH through Government and 40.1 million RHH though non-government/private initiative). The extent of the government coverage required was estimated at 118.9 million RP[6].
The corresponding financial outlay for the entire sanitation sector was estimated at Rs.63000 million. Table 2 gives the detailed break-up.

Table2

(Rs million)

Individual households latrines @2000/-	47550
Toilet facilities in rural schools	5000
Women complexes @5% of 1	2380
Other sanitation facilities @5%	2380
Alternative delivery system, IEC, etc.	5000
Monitoring and surveillance	200
Total	**63000**

To re-state, sanitation coverage was projected to rise from 30 million RHH(169.7 million RP) to 109.8 million RHH(549.2 million RP) by 2002. This implies an incremental increase of 379.6 million RP, corresponding to 75.9 million RHH[5].
The DNP Document does not lay down any targets but calls for an immediate shift towards a "demand-driven" model.

2.5 These estimates are very tentative. The Planning Commission itself has come up with two very different estimates within a year. Perhaps that is unavoidable given the status of the data base on sanitation coverage. However, it should be pointed out that this estimates refers to the total rural population and not just to the population below the poverty line (BPL). Though at first sight it would appear that the financial requirements would decline since the BPL segment amounts to only 35-40% of the total rural population, it is not so. This is because the extent of coverage within the BPL segment is much lower than the overall rural coverage percentage (25% or 16%). It would not be out of place to assume that it is the non-BPL segment that has taken the lead in installing toilets through private initiatives. In fact it would be more appropriate to equate the BPL coverage to the coverage by the government and the CAPART under various programmes like CRSP, MNP, Indira Awaas Yojana (IAY),etc.(85 million).

[6] Rural Population

Both the W.G. and the DNP estimates use RP and RHH interchangeably. Sanitation is essentially a HH concept and should be treated as such.
The financial projections are static. They refer to 1996 data on population and family size and do not make allowance for the sharp changes in demographic indices and rural poverty.

2.6 The W.G. estimates were unduly optimistic in projection sanitation coverage and in assessing the contributions from other sponsored programmes like the IAY. CAPART(Centre for the Advancement of Peoples Action and Rural Technology)[7] etc. In particular, the latter assumption has not been borne out by subsequent programme-wise Plan Performance Reviews, which reveal that the sanitation aspect was largely neglected in the Rural Housing Programmes. Even when toilets wee constructed under the RH programme, the extent of use remained quite insignificant. Table 3 gives an estimate of the physical requirements based on the above assumptions, assuming further that by the end 9th Plan, 75% coverage is to be achieved.
The total amount required under CRSP+MNP, that is exclusively for the BPL segment, is thus (13.8-4.8)*2000=Rs.18000 million by way of pure subsidy. Inclusive of other related items like, school sanitation, IEC, HRD etc., the requirement would be of the order of Rs.30000 million.

Table 3

Year	1991	1997	2002 (Projected)
Rural Population (RP) million	608.6	678.4	732.1
Poverty Ratio	0.373	0.3055	0.1861
Rural Households (RHH) million	107.3	119.6	146.4
BPL RH H million	40	36.6	27.2
SC	9.50%	16%	75%
SC RHH million	10.2	19.1	109.8
Private Initiative-million	9.4	13.7	91
Govt. Coverage CRSP+MNP	8	4.8	13.8
IAY etc.		0.68	5.0 #
Total Govt.-million	**0.75**	**5.47**	**18.8**

Assumptions:

1. *RHH consists of 5.67 members during 1991-97 & of 5 members beyond 1997.*
2. *CRSP+MNP annual coverage assumed to rise by 50% to 18 million units/year.*
3. *10% IAY units have toilets.*
4. *# of the total RH of 170 million.*
5. *RP & Poverty Ratio data from the 9th Plan Document.*

Adding on an additional of Rs.7500 million from IAY[8], the requirement of government funds would be approximately Rs.37500 million. The total sectoral requirement is much larger around(109.8-19.1)*2000=Rs.180000 million. (180 billion)

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[7] in 1997

8 Total IAY outlay is Rs.257000 million for 17 million units. Assume further that 10% of IAY would have toilets.

The W.G.'s coverage figure of 25% appears to be on the higher side. For equally valid reasons the DNP(16%) appears to have under estimated the extent of Scov.

2.7 If we linearly extrapolate the coverage figure in Table 1 above the total coverage comes to around 20%. Assuming a greater step up sanitation coverage during the last 4-5 years, the figure is closer to 20-23%. In 1997, IIMC data does bear out the perception that sanitation coverage has increased quite sharply during the last 5 years. **After taking into account all these factors it would be reasonable to peg the financial requirements for the government at Rs.37500 million for the Ninth Plan period and the extent of sanitation coverage at the end of the 8th Plan at 20% of all rural households.**

Part II

Lessons from past experience

3.1 A number of field studies, village-level studies, evaluation reports, donor agency status papers and inspection notes have drawn attention to the fact that there are serious problems in programme design and implementation.

i) Unsatisfactory rate of progress

At the current rate of progress, it will take the government at least 25 years to achieve the Scov. Level of 75% originally stipulated by the Planning Commission's Working Group. If the same subsidy levels are used, it will cost approximately Rs.180 billion.

ii) Inadequacies of the subsidy-driven programme

There is some evidence that over-reliance of a traditional, supply-driven, subsidy Oriented, government programme is hampering private initiative in rural sanitation. Conversely, there is very strong evidence that in state where CRSP has not taken off to any significant extent, the gap has been amply filled buy private initiative. A recent evaluation (1998) by the British aid agency (DFID) did not find any evidence that the high level of subsidies being offered under current State Government policy was helping to promote uptake of latrines amongst the poor. Indeed, it appeared to reinforce the tendency to promote high cost options. The study recommended that the subsidy be abolished, or at the very least be offered only at a flat rate set to cover a proportion of the costs of a basic low cost latrines.

iii) Over emphasis on a single construction model

There was an implicit bias towards a single, nationally uniform construction model-the twin-pit pour-flush latrine. This hurt programme implementation. It did not allow for flexibilities in the choice of options by the beneficiaries nor did it allow for differences in economic status and in many cases, the adequacy of space in an around the dwelling unit. A series of evaluations have

since shown that preferences, affordability and space considerations are very important determinants of any decision to adopt proper sanitation.[9]

iv) Need to associate private initiative

Thus there is need to provide a fillip to private initiative in rural sanitation. It has by far outstripped the government efforts, by a factor of more than 3. If private efforts are built into the projections above, the time regarding to achieve 75% Scov falls to only 8-10 years and the government's estimated financial involvement to Rs.80 billion.

v) Poor utilisation of assets, lack of correct attitudes, perception and knowledge.

Impressive physical achievement notwithstanding, field studies show poor utilisation of existing sanitary latrines, inter alia due to lack of awareness, poor construction standards, emphasis on standardised designs without attention to local conditions and a general absence of involvement on the part of the beneficiaries. The lack of awareness and people's participation has also hampered the construction of sanitary toilets under allied programme like the IAY, Jawahar Rozgar Yojana (JRY) etc. where beneficiaries have largely tended to augment living and storage space at the cost of sanitary facilities. In fact, contrary to expectation that these programme would contribute an annual amount to equal to CRSP+MNP, (i.e. 4.5-5 million units), the actual contribution is much lower around 10%.

vi) Greater willingness to pay and participate

A number of studies including the very comprehensive Baseline Survey by the IIMC(IIMC, 1997) show that 55% of those with private latrines were self-motivated. Only 2% of the respondents claimed that existence of subsidy as the major motivation factor, while 54% claimed to have gone in for sanitary latrines due to convenience and privacy. The study also show that 51% of the beneficiaries are willing to spend upto Rs.1000/- to acquire sanitary toilets. The most impressive corroboration comes from the Intensive Sanitation Project(ISP), Midnapur, located in the state of West Bengal, where a collaborative effort between an NGO(the Ramakrishna Mission Lok Shiksha Parishad (RKMLP), the PRIs (Midnapur Zilla Parishad & the concerned panchayat Samitis/Gram Panchayats) and the state government has produced startling results. Using RKMLP's expertise, a widespread network of young clubs, intensive advocacy, extensive people's participation and a willingness to cater to people's felt needs by offering an entire "menu" of option instead of the standard twin-pit pour-flush latrine, the state has been able to enhance Scov. in Midnapur from 4.7% in 1991 to over 20% in 1997. The programme has been taken up for replication in all the districts and West Bengal has the highest Scov. In the whole country. A recent evaluation shows that uptake of latrines is currently running at some 40,000 units per year in Midnapur alone. Since 1991 the percentage of households owning a latrine in the district has risen. A few panchayats have managed to

[9] According to the Indian Institute of Mass Communication, New Delhi, nearly 63% of the toilets currently in use where constructed during the last 5 year (Table 20 of the IIMC report).

achieve 100% coverage of their population. The associated Knowledge, Attitudes and Perception (KAP) study also indicates that usage rates in the district are very good, over 90%.

vii) Absence of Priority

Allocations under CRSP have not matched the requirements. Most states, being assured of poverty-based allocations, have relegated CRSP to the background and treated it as an adjunct of other Rural Development/Water Supply Programme, instead of according it the importance it deserves.

Current Government of India outlay for CRSP(Rs.1000 million per annum) are insufficient. They do not even match the MNP provisions by the States(Rs.2000 million on an average). At these levels of funding and the current rates of subsidy, the maximum possible coverage during the next five years would be around 5-6 million rural households, under all Government Programme (CRSP, IAY, etc.) and maximum coverage levels would not exceed 30% in any case.

viii) Neglect of school sanitation

The CRSP has neglected this, very vital, component of sanitation. Though the need for school sanitation has been long recognised, both from the view point of children's rights and the fact that school children have the potential of acting as the most persuasive of advocates for the benefits of sanitation in their own households, the ongoing CRSP does not provide for it.

ix) Lack of appropriate institutional alliances

Hitherto, CRSP has been marked by a near-total absence of institutional linkages with allied programme like. ICDS , Mahila Samakhya, Co-operatives, particularly women's co-operatives and dairy/sugar co-operatives, IAY and other rural housing programme. As pointed out earlier, CRSP has been largely implemented as a small government programme, without trying to take advantage of al the possible links that could possibly have contributed to the programme, in terms of coverage, technical inputs and managerial expertise.

x) Need for restructuring

The Working Group set up by the Planning Commission had worked out CRSP fund requirements (at Rs.63 billion approx.) based on achieving of 75% coverage level by the end of the 9th plan. These have subsequently been re-done using latest date regarding coverage, population and poverty. The current estimate is almost Rs.37.5 billion. In case the projections, particularly those regarding poverty, happen to slip, the requirements are likely to be much higher, around Rs.80 billion, by way of pure subsidy.

The total 8th Plan outlay for CRSP and MNP was Rs.7.370 billion. Thus, a 500% increase in outlay would be required if a 75% coverage level were to be achieved.

Funds of this order would be hard to locate. In this perspective, the target should also be scaled down. **Instead of seeking to achieve 75% sanitation coverage, we should restrict ourselves to a minimum of 50% sanitation coverage by the end of the 9th Plan.**

Even this amount would be hard to find. The only way out would be to restructure the exclusively subsidy driven sanitation programme, using valuable field experience on low cost sanitation with extensive advocacy and people's participation. A number of interesting campaigns have conclusively demonstrated the weaknesses of the subsidy oriented top-down sanitation programme and have extensively and successfully co-opted NGOs, banks, panchayats to achieve very impressive coverage levels (e.g. Midnapur in West Bengal, Periyar in Tamil Nadu, Mysore in Karnataka , Allahabad in Uttar Pradesh.).

3.2 Macro-level constraints :

The foremost constraint relates to resource availability. Even if we assume that sanitation sector finally gets Rs.10 billion [10] during the 9th Plan, a jump from the 8th Plan outlay of Rs.6.74 billion, the resource gap would still be substantial (Rs.27.5 billion).
The second constraint relates to the physical capabilities of the government agencies working in the sector.

It is unlikely that the annual achievement could be made to exceed 1.5 million units which itself represents nearly a 50% increase on the current level of annual achievement. This is further one out by the fact that nearly 13% of the total financial allocation of Rs.7.37 billion remained unspent during the 8th Plan.

Even assuming that financial and physical constraints are somehow overcome, the question of proper utilisation of the assets created would continue to be vital. Field data indicates that many of the toilets already constructed are not been properly used. Mostly due to a lack of knowledge or wrong perception regarding sanitation.

3.3 Suggestions:

As already stated, given the financial and physical constraints, it would be appropriate to fix a less ambitious target for the 9th Plan. To be fair, the Working Group did consider this fact, but then was rather optimistic in re-fixing the target at 75% of the total rural population. It has taken us a very long time to achieve 20% coverage. To assume an incremental increase of more than 50% in a 5-year span is perhaps being unduly optimistic. A more realistic target would be to try and cover at least 50% of the total rural households by the end of the 9th Plan. This would reduce the financial implications and would also be more in consonance with the physical capabilities of the sectoral agencies.

[10] Current indications are that this may happen

If we are to achieve even the reduced target within the 9th Plan, ways would have to the devised to meet the likely resource gap of about Rs.18000-20000 million.

It should be noted that the likely 9th Plan (CRSP+MNP) allocation of Rs.7000 million [11]would suffice for only about 4.5-5 million units at current rates of subsidy. Even after another 5 million units would be installed through allied programme like (IAY,JRY, etc.) the total 9th Plan coverage would be limited to 10 million, at 40% well short of even the reduced target of 50% In fact , the incremental 9th Plan addition is likely to even lower given that the contribution from IAY, JRY, etc. will go down as prices rise. Beneficiaries and implementing agencies would tend to concentrate on the actual dwelling units[12] in preference to the toilets unless the cost norms are raised sharply, which may then affect the physical coverage under those programmes. The shortfall may thus be much higher than 10%.

Part III

4.1 Policy implications:

The above analysis has some very obvious policy implications.

- There is a serious mismatch between the sectoral needs, given existing subsidy levels, the allocations and the current construction norms.
- Higher coverage at existing levels of allocation would imply lower per capital subsidy and require greater motivation among the beneficiaries to "demand" and pay(even if partly) for sanitation.
- The latter would call for increased IEC, advocacy, people's participation and the involvement of all segments of civil society.
- Given the multiple constraints of finance, sectoral capabilities and physical coverage targets, there is an urgent need to locate additional resources, if necessary, by going outside the government system and exploring other options.

4.2 Recommendations:

Apart from setting realistic targets and addressing the reductions in the fund availability, there should be a clear recognition that a purely subsidy driven sanitation programme cannot continue. Subsidy levels should be gradually reduced. It would be seen that reducing the current per capita

[11] The 9th Plan draft sets this at Rs.7000 million. This is actually lower than the 8th Plan outlay of Rs.6740 million in real terms

[12] Report of the RGNDWM Technical Officers visit to N.E. States Feb/March, 1998. PAMORD study, NIRD, 1998

subsidy from Rs.2000/- to around Rs.600/- would allow about the same extent of coverage under outlay of Rs.10000 million as under the projected outlay of Rs.45000 million.[13]

However, keeping in view the needs of the BPL segment, we could split the (CRSP+MNP) allocation in two. At least 50%(Rs.5000 million) would be used as seed money to explore "low-subsidy" options. The remaining amount could be used for the traditional subsidised programme exclusively for the poorest segments along with previously under-emphasised activities like school sanitation.

IEC/Advocacy would have to be intensified. We now have a Baseline K.A.P. (Knowledge, Attitudes and Practices) Survey on RWSS (prepared by the IIMC), which would have to used to prepare a national wide strategy.

Part IV

5.1 Changes in the manner of implementation

So far the CRSP approach has been supply driven and mostly through the government. machinery. Results are uneven. Some states have done much better i.e. U.P., Haryana & H.P. in suing both government subsidy and machinery . However, in terms of coverage expansion, these states are very much behind those that have relied on non-government initiative either in terms of subsidy or the delivery system.

Table 4 ranks some states according to the government, private and total coverage.

Though it is difficult to derive reasonable conclusions from the data,

Table 4

State	Rank by Govt. Coverage	Rank by Private Coverage	Rank by Total Coverage
U.P.	1	6	4
H.P.	2	-	10
Haryana	3	-	12
A.P.	4	5	5
Gujarat	5	2	2
W.B.	16	1	1

It can be seen that

- Private initiative has by far outstripped the Government programme, by as much as 100 times. (UNICEF, 1996)

[13] Of course, the question of a target-driven approach would arise. But, at the national level, the need for a macro, sectoral target will always remain.

- Greater reliance on private initiative, a "low subsidy" regime or on NGO-driven partially demand oriented delivery system has given much better results.
- It also appears that the Government initiative, wherever it is purely, subsidy drawn and solely reliant on Government machinery, has crowded out private efforts to a significant extent[14]

The obvious way out would be to go for the "private" option, but for out commitments to the BPL segment. What is required is a combination of the two approaches, as has been done under a number of EAPs (Externally Assisted Projects) in A.P., Kerala, and Karnataka. In those State, the line department virtually "sub-contracts" its responsibilities regarding rural sanitation to a group of NGOs/local bodies. These then go out, generate demand help to construct toilets and also help to implement the IEC/HRD components.

5.2 Instead of a state -wide, diffuse approach, they instead concentrate on a small group of villages in a district in an intensive manner.

In short, they adopt the "campaign" mode.The campaign mode has been quite successful, not so much in rural sanitation (through the Nirmal 2000 programme in Kerala is an exception) as Literacy and Immunisation.

It helps focus attention on problem areas, facilitates beneficiary identification, forces field officers to closely identify the strengths and weaknesses of the government apparatus, mobilises support from non-government organisation (NGOs) and other important segments of civil society, integrates the IEC and HRD components with the "hardware" part of the programme and most importantly, provides a time- bound implementation schedule

These issues were debated at length a two-day National RS Seminar held in New Delhi in July this year. It was felt that the Mission could use its allocation to partly support "Total Sanitation Campaigns (TSC)" in selected states/districts. The extent of support could very from item to item. While surveys, start-up activities. IEC, HRD, Advocacy etc, could be covered in full, the hardware part could be covered to a lesser extent. In fact, we could peg the GOI contribution for hardware to agreed levels. It would then be up to the state to meet the remaining expenditure. In order to expedite the preparation of such campaigns and to allow for the proper grounding of the TSC approach, the TSC component could be gradually increased during the 9th Plan. Say from 50% in the first two years down to 10% in the last, mainly for spill over work.

The seminar participants further recommended that GOI could also try and integrate the "vertical upgradation" concept with the above and ensure a greater degree if support for those BPL HHs as may wish for a heavier does of subsidy. Within the overall level of the hardware component, the subsidy levels for different income/preference groups could vary. The cheapest model, say worth Rs.600 could continue to get 80% subsidy, whereas the "upgraded" models would be eligible for progressively lower subsidies. This has serious equity implications. IIMC

[14] Total Coverage is much more strongly correlated with Private than with Government Coverage

data show that affordability is a big issue, particularly with BPL beneficiaries who were also largely averse to elaborate structures due to space constraints.

5.3 At present, there is insufficient organisational emphasis on rural sanitation. If the activities are to be speeded up in the coming year, this problem would require resolution. The traditional GOI/donor support for a limit number of years. In this case, the seminar recommended that GOI could try something a little different. State-level registered societies, called Sanitation Missions could be set up to manage the programme. The Governing Bodies would have to be diverse, with adequate representation from NGOs, activists. Panchayat functionaries and civil servants. These could receive initial support from the UNICEF/UNDP. Staff placement would be done with care and involve GOI, the donors and the important stakeholders in the sector. The Sanitation Mission would then take up Total Sanitation Programmes (TSP) in selected districts, either through the existing line departments, through responsible NGOs or other organisations at the district level, like the NYKs (Nehru Yuvak Kendra), BGVS (Bharat Gyan Vigyan Samity) or the Bharat Scouts/Guides. All the funds (CRSP+MNP) currently routed thought the line department, be it the PHED or the RDD, would be made available to the Mission. While the restriction on CRSP funds being available for only the BPL segment would continue, the state would be free to decide on the MNP part. For the general project management structure of the sanitation mission, the SWACH[15] or the SWAJAL[16] models could be used. District selection would be based on the status of readiness of the people to appreciate the concept of paying for sanitation and on the availability of motivators. Keeping these mind, it would be appropriate to select the TLC (Total Literacy Campaign) districts and try to integrate sanitation with the teaching curriculum, while providing a token fee for the TLC workers for each HH motivated to pick up a sanitary toilet.

As the data shows, it is difficult to isolate one particular reason for enhanced sanitation coverage. It is probably a synergistic interaction between the government machinery active NGO participation, intensive IEC, the provision of an alternate delivery system and more flexible, demand-oriented construction norms. This is also the view of the Planning Commission. Only a campaign approach will allow us to integrate all the above. Possible institutional finance links could also be built into such projects.

Part V

6.1 Conclusion

The paper uses current, field- level implementation experience to propose substantial policy changes in rural sanitation. It should be recognised that the conclusions or suggestion contained here in no way reflect actual government policy. A number of crucial questions remain unanswered.

For example, how could the "low-cost", "low-subsidy" approach be used in areas where geological conditions warrant relatively higher cost interventions —like coastal/hilly areas? What

[15] Society for Water & Community Health, Udaipur, Rajasthan
[16] World Bank assisted RWSS Project in U.P.

incentives could be built into the policy to encourage new initiatives like dry composition latrines and vermiculture- based technology? What should be the subsidy structure, flat subsidy irrespective of unit cost or a graded subsidy based on unit costs? How many subsidy categories should there be? Should we continue to concentrate on the BPL segment or should we accept the prevailing wisdom that behavioural/attitudinal changes do "trickle down" to the poorest?

The paper would have achieved its objective if it generates an informed debate on the status and prospects of rural sanitation in India.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

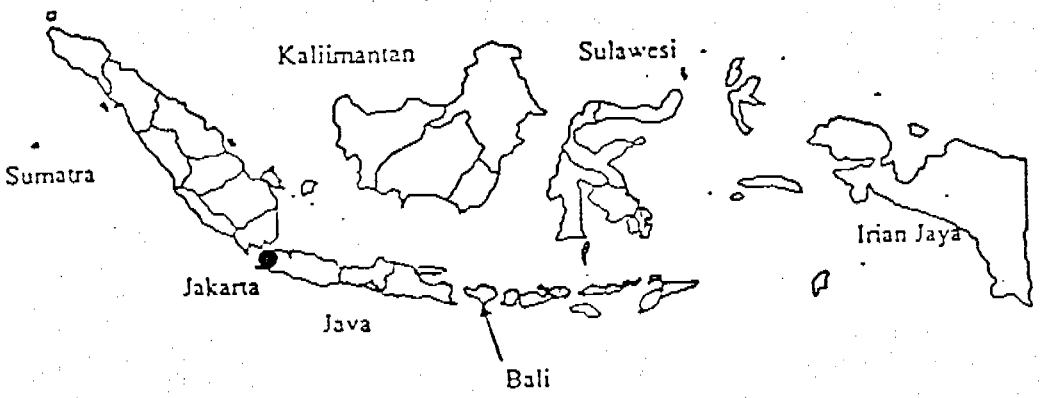
SEA/EH/Meet/6.1.5
07 October 1998

INDONESIA – COUNTRY STATUS REPORT

INDONESIA - COUNTRY REPORT

PRESENTED
AT

REGIONAL CONSULTATION ON NEW APPROACH TO
SANITATION FOR HIGH RISK COMMUNITIES
POKHARA, NEPAL
17 - 19 NOVEMBER 1998



DIRECTORATE OF ENVIRONMENTAL HEALTH
DIRECTORATE GENERAL COMMUNICABLE DISEASE CONTROL
AND ENVIRONMENTAL HEALTH
MINISTRY OF HEALTH - INDONESIA

INDONESIAN COUNTRY PAPER

NEW APPROACH ON SANITATION

1. Introduction

Sanitation is universally accepted as a foundation for good health and total coverage remains a vital aim. However, epidemics of cholera and continued high endemic rates of diarrheal diseases and intestinal helminthic infestations have increased the awareness that certain communities are living at high risk and are suffering disproportionately. Generally, such communities are crowded urban and periurban settlements often without recognized legal status and rural communities where polluted surface water and unprotected wells and springs prone to contamination are used for drinking water. Such environments, both in urban and rural areas, lack of hygienic toilets, proper drainage, solid waste disposal, and water for personal and domestic hygiene.

The World Summit for Children in 1990 set the goals for universal access to clean water and proper sanitation facilities by the year 2000. By this mid-decade, coverage is expected to increase to 67 percent for water supply and 60 percent for sanitation.

According to current trends, the goal for clean water is expected to be achieved. In environmental sanitation, however, the picture looks grim, particularly for rural areas. So far, about 78% of the population in urban areas and 49 % in rural areas had access to proper sanitation facilities in 1997. It is clear that the goal of universal access will not be reached if present trends continue. Achievement of the WSS goals, therefore, requires drastic policy changes and the creation of a nationwide community-based movement.

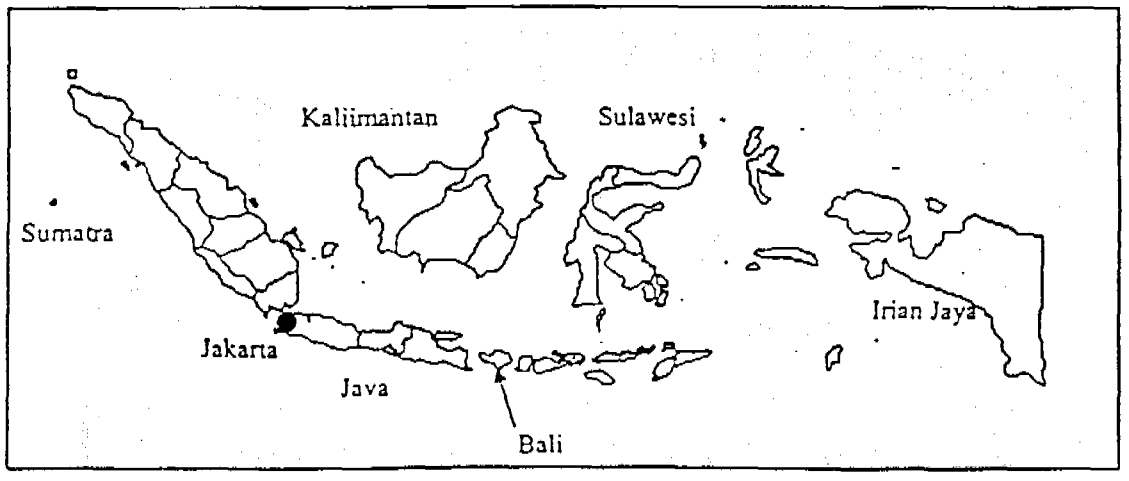
The strategy for acceleration of water supply and sanitation (WSS) activities, particularly in environmental sanitation, center by encouraging local governments, through the bottom-up planning process, to re-allocate budgets. so that they can share the financial responsibility for meeting, the community demand for facilities, greater emphasis on information, education, and communication while phasing out government's project construction of WSS facilities.

In order to ensure sustainability, marketing principles have also been applied by training local entrepreneur and providing them with molds so that sanitation components become available in the village at affordable prices. A village package comprising community preparation and motivation activities, including molds and stimulants was introduced. In order that these initiatives for using simple low-cost technology could be applied effectively in a community setting, a partnership has been developed with the Family Welfare Movement (Pendidikan Kesejahteraan Keluarga or PKK) and religious organizations for implementing these activities.

2. The Country of Indonesia at a Glance.

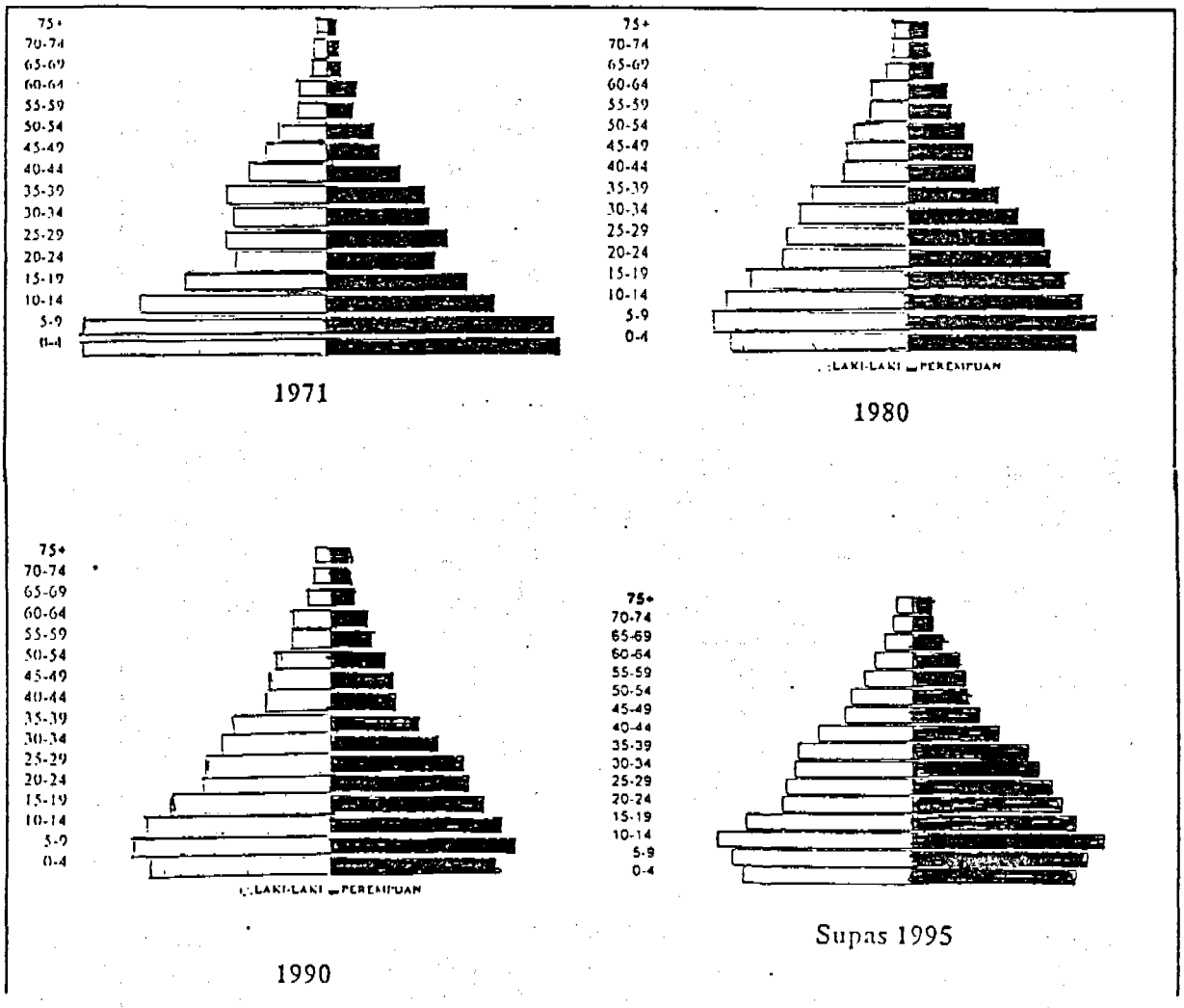
Geographically, Indonesia is a vast country extending for more than 4,900 km from east to west, and 2000 km from north to south between the Asian mainland and Australia. The country is an archipelago of over 17,000 islands of which only 6,000 are inhabited. The total land area of the country is 1.9 million km sq. separated by varying expanse of sea. The five main islands are Java, Sumatra, Kalimantan, Sulawesi and Iran Jaya. See figure 1

Figure 1: Map of Indonesia



Indonesia is the fourth most populous country in the world. Population density varied widely between Provinces with Java having an order of magnitude greater than Irian Jaya By mid-1997, the total national population was estimated at almost 200 million people. The high rate of population growth in the 1960s and 1970s means that Indonesia has a predominantly young population. The 1990 census showed that 36.6 % of the population was under the age of 15, and another 19.6 % of the population was in the 15-24 age group. See figure 2.

Figure 2: Population Pyramid in 1971 to 1995



Administratively, the country is deviled into 27 provinces, 310 districts, 3,625 sub-districts and 67,000 villages. Governors, Reagents, and Head of Villages are responsible for the administration of local government and are

the local representative of the President of the Republic. Jakarta is the administrative capital and is located at the northern tip of the island of Java.

The fact that level of economic growth has steadily increase since the last 30 years, the general health indicators performance are the lowest within the ASEAN countries. The infant mortality rate was 58 per 1000 live births in 1993. The 1992 National Household Survey showed that infectious and parasitic diseases were the most common cause of deaths in Indonesia which accounts for 44 % of all deaths or about 600,000 preventable deaths approximately with an adequate sanitation.

Some action plans have been initiated in anticipation of the rising health problems following the economic crisis targetting the development of hygiene and sanitation program. Labor intensive sanitation development **('Proyek Padat Karya')** which utilize local local existing materials and people as workers in the process of construction of sanitation facilities.

3.. Present Situation in Urban and Rural Sanitation.

3.1. Sanitation Coverage

The data proved hygiene and sanitation intervention is very effective in reducing morbidity and mortality rates often related diseases. Researches revealed that hygiene and sanitation improvement decreased 25 % of diarrheal incidence and 65 % of diarrhea deaths. Moreover, good hygiene and sanitation condition will improve the family welfare as the ned for less physical exertion will save money for health care expenditure.

The sanitation coverage in Indonesia is still low, with average national coverage of 58.3 %. The percentage markedly varied among the 27 provinces. The highest coverage is in DI Yogyakarta province (89 %) and the lowest one West Nusa Tenggara province (45.5 %). In urban areas, the highest coverage appeared at DKI Jakarta province (99.5 %), while the lowest appeared at West Nusa Tenggara province (64.4 %). In rural areas, the highest coverage appeared, at DI Yogyakarta province (90.95 %) and the lowest coverage West Nusa Tenggara province (40.94 %).

Compared with other developing countries, sanitation coverage in Indonesia is the lowest. For example, the national sanitation coverage for Malaysia is

94 %, Pacific Islands 80 %, Thailand 86 %, and the Philippine 75 %. With regard to the current economic crisis in the country, the figures are expected take even lower.

Some facts on health condition following the poor sanitation are as follows. Slight decrease of diarrhea incidence in the period 1990-1996, from 27.22 to 24.26 per 1000 population. The prevalence of worm infection remains high, that is, 75 % in school children and adults in South Sulawesi province.

3.2. Financial Sources

Presently, in addition to the national budget, the sources of funding for the sanitation development originate from various the International Donor Agencies. The donors financing sanitation projects include the World Bank (WSSLIC = Water Supply and Sanitation for Low Income Community), the Asian Development Bank (RWSS = Rural Water Supply and Sanitation), Unicef (CDD-WATSAN = Control of Diarrheal Diseases with Water and Sanitation), AusAid (Australian aid) and CARE, (an NGO), are also involved in the sanitation development.

The donor Agencies develop its strategy different strategies in conjunction with each other. For example, the WSSLIC is concern income generating of the community while the Unicef is interested in developing programs to reduce infant and child morality.

A total budget used for sanitation development in the period 1994/1995 to 1998/1999 fiscal years can be seen in table 2 below.

Table 2
Budget for Sanitation Development in Indonesia
by Source of Budget (in thousand Rupiah)

Fiscal Year	Gov. of Indon.	Loan	Total
1994/1995	48.630.671	26.050.017	74.687.688
1995/1996	70.215.585	33.580.665	103.796.250
1996/1997	114.278.777	61.709.960	175.988.737
1997/1998	147.470.000	54.079.816	201.549.816
1998/1999	124.969.828	73.287.512	198.257.340

Source: * Ministry of Home Affairs, 1998

* up to 1996/1997, exchange rate US$ 1 = Rp. 2,500.00
* after that period, exchange rate US$ 1 = Rp. 10,500.00

3.3. Facilities Construction

The role of the Directorate of the Environmental Health is mainly to control and promote education in hygiene and sanitation, and also to provide stimulant packages for latrines construction. These packages comprise cement, toilet pans, and vent pipes. The control is directed at improving the quality of housing and the environment, both in urban and rural areas. The main controlling activities are to identify environmental risk factors-- physical, biological, and chemical -- that may lead to be sources of agents and transmitters of various communicable diseases.

The hygiene and sanitation control activities relate to control of human excreta disposal and solid waste disposal. In relation to this function, the Sanitation Unit within the Directorate of Environmental Health (MOH) is also responsible for the provision of sanitation facilities, especially for the low income communities. Technically, this construction is undertaken by the Ministry of Public Works. The Ministry of Health is involved in community preparation and facility monitoring in the post project phase. The total numbers of districts and villages as project locations and the numbers of sanitation facilities constructed can be seen in tables 3 and 4 respectively.

Table 3
Number of Districts and Villages Where Sanitation Facilities Constructed
Indonesia, in the period 1994/1995 to 1998/1999 Fiscal years

Fiscal Year	No. of Districts	No. of Villages
1995/1996	185	2,120
1996/1997	203	3,097
1997/1998	199	2,675

Table 4
Number of Sanitation Facilities Constructed
During the 1995/1996 to 1997/1998 Fiscal Years

Names of Facilities	Number
Family Latrine	40,338
Public Multiple Latrine	2,137
Combined bathing and latrine (MCK)	1,738
Waste Drainage System	6,389
Latrine Stimulants	27,602

3.4. Hygiene and Sanitation Education (HSE)

The objective of HSE activities in the pre construction stage is to increase knowledge and awareness in communities of the importance of WSS facilities and its relation to the occurrence and outbreak of some communicable diseases. In the preconstruction stage, the HSE was directed to increase the knowledge and demand of WSS facilities. In the post construction stage, the HSE purposed is to motivate communities to maintain, utilize, and replicate the WSS construction. The entry point in the post construction phase is schools run by teachers and parents, school children, parent association, and facility management unit (UPS), community organization managing the WSS.

Hygiene and sanitation education is coordinated by facilitators and local government at every stage of the program. The target groups of the HSE activities are families, students, and women. The families targeted in the programs are those who need facilities but who do not have them. These families are expected to be pioneers of hygienic and healthy living behavior ('PHBS'). Elementary schools students who are prepared to be new motivators of 'PHBS', their families and neighbors. Women in the villages are motivated to develop and condition families into having knowledge and awareness the 'PHBS' practices..

Indicators have been developed for monitoring the performance of communities in managing WSS facilities. The indicators include:
1) accessibility to adequate safe water facilities,
2) accessibility to hygienic latrines,

3) percentage of people in the communities have adequate knowledge in 'PHBS', and
4) percentage of people in communities who practice 'PHBS' in their daily life.

Some facts that can be shown in relation to the success of the school hygiene promotion are as follows. School children have the ability to influence their family for practicing 'PHBS'. School children have the power to motivate fasility management unit ('UPS') for managing and maintening the WSS facilities. The fact, that the save selling of bathing soap and toothpaste are increasing.

In addition, the results of monitoring and evaluation on 'PHBS' among school children in grade 5 were as follows:

Habits	Before Intervention	After Intervention
1. Shower 2 times a day (morning and afternoon) with clean water	55 %	90.3 %
2. Teeth brushing 2 times a day	5 %	91.5 %
3. Hands washing: • before and after eating (without soap) • after defecating (without soap)	 81.5 % 81.5 %	 88 % 88 %
4. Defecating in hygienic latrines	3 %	83.7 %
5. Garbage Disposal: • at garbage bins • anywhere (river, beach, fields, etc.)	 0 % 100 %	 15.5 % 94.5 %

Source: WSSLIC Secretariat, 1998.

3.5. Training

The sanitation training program covering all training include 1) the hygiene and sanitation program; 2) the community management program; 3) implementation of project; and 4) the sanitation institutional development program. The number of trainees by their category can be seen in table 5 below.

Table 5
Number of sanitation trainees by category,
particularly in WSSLIC project areas, Indonesia, 1997.

Training	No. of Trainees (persons)
District Staff	166
Subdistrict Staff	2,102
Village Cadres	1,653
School Cadres	1,135
Women	1,038
Village Sanitarian (tenaga sanitasi desa = TSD)	606

4. Objective and Target

4.1. General Objective

Generally, the objective of the hygiene and sanitation promotion program is to improve community health status by increasing and sustaining the effective use of sanitary latrines that may lead to the reduction of morbidity and mortality of the relating diseases.

Specifically, the objectives of the hygiene and sanitation promotion development are to:

- increase the percentage of household with total sanitation to 65 % in rural areas and 90 % in urban areas by the year 2000.
- strengthen the capacity of loc`al government staff and community cadres to motivate communities with hygienic and healthy living behavior
- promote community participation based on community responsibility and ownership conceptual framework in the project areas;
- advocate for enhanced priority for WSS in sector management plans;
- promote simple technologies to enable communities to actively participate in construction;
- strengthen the national capacity in effectively maintaining a WSS management information system.

4.2 Target

The target of the Sanitation Program is to increase coverage of environmental sanitation from approximately 40% to 65 % in rural and from approximately 80% to 90% in urban areas by the end of the year 2000.

5. Policy and Strategy

In general, the policy in hygiene promotion development include:

- the involvement of local governments with regard to running the program effectively and appropriately, with the policy and mechanisms of regard to national development.
- the integration of the sanitation program with other responsible sectors, such as Public Work and Ministry of Home Affair.
- the empowerment of communities by taking over maintenance of the sanitation facilities constructed.

The general strategies taken in achieving the program's objectives are as follows:

- establishment of sanitation Coordinating Team at each level (Central, Provincial, District, and Subdistrict levels);
- improvement and construction of sanitation facilities by providing stimulants that will be passed on to other families;
- sanitation projects are mainly directly to low income communities;
- capacity building of local government staff by involving them at any phase of the project (planning, implementation, and evaluation phases);
- involvement of NGOs in conducting hygienic and healthy living behavior ('PHBS') promotion activities;
- empowerment of communities in taking over and maintaining the projects;
- development of school hygiene in school through children, teachers, and parent associations as promoters of PHBS practices in communities.

6. Institutional Arrangement

Institution for the management of hygiene and sanitation promotion is arranged in such that it involves all responsible sectors at all levels.

At the central level, the Coordinating Team assisted by a Technical Team consists of the Ministry of Health, the Ministry of Home Affairs, and the Ministry of Public Works. In regard to the Unicef funding, additional ministry, the Ministry of Religious Affairs and the woman organization('PKK') are also included in the Coordinating Team members.

Each member has a separate function. The Directorate General of CDC & EH and Center for Health education, MOH are responsible for the monitoring and quality control of clean water and sanitation, and also in hygiene and sanitation education (HSE) activities. The Ministry of Home Affairs is responsible for planning and coordinating all Team members and also for empowering communities to take over and manage WSS facilities. The Ministry of Religious Affairs and woman welfare movement ('PKK') are responsible in sanitation campaigns and motivation within communities.

A similar structure is also in place at provincial, district, and subdistrict levels. While at village level, trained cadres and village sanitarians are available in some villages.

7. Activities and their achievements

Some activities initiated for the achievement of those objectives are as follows:

- strengthen coordination with all related sectors. The program involves numerous sectors. Two directorates of the Ministry of Health (Directorates of Environmental Health and Water Supply), Public Works, and Ministry of Home Affair have been involving in the project. Coordination among these various Agencies has now been strengthened considerably.

◊ introduction of an active technical team that meets regularly
◊ implementation of activities aimed at addressing constraints that have previously been identified, such as project monitoring, project evaluation, and workshops have been conducted through the coordinated efforts of the responsible Agencies.

◊ joint visits to the provinces for orientation, planning, and monitoring purposes.
◊ regular joint meetings for the sectors within the programming;
◊ joint efforts to promote political commitment of district leaders towards improved environmental sanitation.

- Obtain stronger commitment towards sanitation and hygiene promotion. The achievements of these activities have been :

◊ Greater efforts have been made to strengthen this aspect through the conduct of a national workshop on hygiene promotion, Clean Friday Movement ('GJB') activities focusing on 'PHBS' practicing campaign, and school hygiene promotion as a part of the school health program;
◊ Launching for regional initiatives in hygiene promotion, such as the 'SARASA Movement' in West Java province, 'Gerakan Jumat Bersih' in West Lombok, and 'Klinik Sanitasi' in East Lombok;
◊ In some provinces, the local government's budget has shown a substantial increase.

- **Develop stronger involvement of NGOs including religious NGOs.** Some achievements on these activities include:

◊ a number of religious NGOs have been involved in the activities at the central level together with some provincial levels (Central Java, East Java, and East Timor);
◊ a number of local NGOs have participated in the implementation of the program (NTT and South Sulawesi, East Timor, etc.);
◊ a Womens Welfare Movement (PKK) has played an important role in the planning and implementation of the family latrine stimulant in many provinces, such as in Central and East Java, NTB, etc.

- **Acceleration of environmental sanitation program in selected districts.** The acceleration of construction of family latrines and school latrines has been conducted in 76 selected districts in 7 provinces with 150,000 sanitation facilities constructed.

- **Increase involvement of communities in the Sanitation Program.** Communities have provided part of the construction costs and

maintenance costs of multiple public toilets ('MCK') and family latrines in kind through the contribution of labor, land, and materials. For family latrines, toilet pans were provided by the project, whereas building construction including materials was by beneficiary families. Both MCKs and family latrines appear to be in effective in many cases because people are not accustomed to the use of these facilities, water is not supplied, etc. The achievement of community participation include:

◊ in most project areas, it appeared that women have been actively involved as managers of the facilities constructed;
◊ 'PKK' have participated in the program dissemination, particularly in West , Central, and East Java , and also NTB provinces deserve special awards;
◊ in many project areas, the community contribution has increased, and is now estimated at more than two-thirds of local cost of facilities, including construction of the latrine, labor costs and other materials;
◊ sanitation components are locally available in many sub-districts through local entrepreneurs.
◊ more people are being served by sanitation facilities at lower cost .

- **Capacity building**. Recognizing that human resources play a very important role, the Environmental Sanitation Program has conducted training that include:

◊ training of district and subdistrict staff, sanitarian health centers, village cadres, school cadres, and women, village sanitarians, and other program managers have been conducted every year;
◊ study visits among provinces have been taken to facilitate the exchange of experience and knowledge;
◊ a study visit to Myanmar and India of the 7 provinces and key officials from the central level has resulted in a commitment towards a community based approach including the use of a school network in promoting hygiene behavior.

8. Special Achievement

8.1. Upgrading of National Sanitation Capabilities (Klinik Sanitasi Initiative)

The 'klinik sanitasi initiative (KSI)' is a pilot program to strengthen local community awareness of environmentally related sanitation issues and the linkage of these to the incidence of contagious disease. The target groups of the 'KSI' are informal community leaders and health center patients with illnesses of environmental etiology at the district and community levels.

The activities of the 'KSI' sanitarian includes Health Center consultations (to patients diagnosed as suffering from environmentally acquired or environmentally linked diseases) and referred by the medical staff, and home visits to give on site advice. Results of the consultation and home visits, with appropriate anonymity, is subsequently discussed in periodic Health Center Workshops. If necessary, the local neighborhood Leader or District Health Authority may become involved to ensure follow up action. Outside the Health Center, the sanitation worker, together with cadres. will, conduct hygiene and sanitation education during their home visit activities. The Clinic Sanitation Program has the advantage of targeting those in the community in greatest need of advice and education. As such, it provides a resource-effective means of health services delivery outside of the routine sanitarian inspection program.

8.2. Clean Friday Movement (GJB)

The Clean Friday Movement or **"Gerakan Jumat Bersih (GJB)"** initiated in mid 1992 is an innovative approach to the achievment of universal access to safe water and sanitation facilities. A workshop organized by the 'Majelis Ulama Indonesia (MUI)', the country's highest Islamic Council, discussed HSE problems in Indonesia with other major Islamic Organizations and representative from the Ministries of Public Works, Health, religious, Affairs, Home Affairs, and the Office of the Minister Coordinator for People's Welfare. The workshop recommended measures for close cooperation between the Government,'MUI', and Unicef to promote clean water and safe excreta disposal to overcome current problems.

The following year, the concept known as **'Gerakan Jumat Bersih (GJB)'** was developed as an innovative approach for changing personal hygiene behavior, improving environmental sanitation, and for accelerating access to and utilization of latrines from the current level to 100 % by year 2000. Subsequently, the 'MUI' requested the President to officially launch the 'GJB' Movement. The'GJB' is currently being managed by the Ministry of Health.

The movement is based on the Islamic belief the cleanliness is part of the faith, and the special meaning given to Friday, the day of communal worship. Friday is also physical fitness day for government employees and a day for cleaning the house and its surroundings for the community. While originally based on Islamic principles, the movement is not aimed at only Muslims. Communities of other faiths are expected to undertake this movement, adapting it to their own beliefs and teachings, including if necessary under a different name.

The campaign focuses on cleanliness at home, office, public places, mosques, churches, temples, and schools. It also has a physical target, i.e. to ensure that every household has a family latrine. It is expected that this campaign will lead to other changes in behavior conducive to good health.

The national launch by former President Soeharto is expected to be followed by launches in other key provinces, including Java , North Sumatra, South Sumatra, South Sulawesi, and Lampung which together comprise over three quarter of the national population. With the political commitment and leadership of the President, Central, Provincial, and local leaders, technical support from sectoral departments and the active participation of religious NGOs, 'PKK' and the community as a whole, the 'GJB' is on its way to become a truly national movement.

A Success Story of 'GJB' in West Lombok District

In 1993, Kayangan village in West Lombok reported a water coverage rate was 85 %, but only 21.7 % coverage for latrines. By the end of the year, as a result of the GJB campaign, coverage rate had reached 100 % for both water and latrines. This remarkable acceleration was initially

inspired by the Bupati or Head of the West Lombok District who challenged all his subordinates to build at least 20,000 family latrine during that fiscal year.

In the process of reaching this target, Sub Districts and village leaders worked closely with members of the 'PKK' as well as with local religious and community leaders. The local government and Unicef support Rp 25,000 (US $ 2.5) stimulant for each latrine built. Fiberglass molds were also brought in to facilitate the construction of the latrine closet and concrete rings.

Village masons were given on the job training in how to use the molds which proved to be particularly appealing to the villagers. The 'PKK' members found that molds encouraged villagers to make the closet and rings themselves, especially as the cost of the cement was covered by the stimulant (one and half bag of cement proved sufficient to build three concrete rings, a water seal closet and seat). Construction work was supervised by sanitarians from the Community Health Center or Puskesmas and technical staff from the Public Works Service.

During the fiscal year of 1993/1994 a total of 30,000 latrines were constructed in West Lombok. Latrine construction has increased 25 times in West Lombok against 7 times in other 30 districts. More than one hundred new latrines were built every day by the community with technical support from the local government. By 1995, under current trends, close to half of all households in West Lombok will have their own latrines as compared with 10 % in 1990.

9. Lessons Learned

In the development of Sanitation Projects lessons learnt include :

- ◊ efforts launched at the central level including campaigns and workshops requires follow-up to translate them into a regional context before they can be expected to begin;
- ◊ there have not been enough success stories among program managers as shown by the two examples (Gerakan jumat Bersih and Klinik Sanitasi)

that have been conducted at all national level meetings. Exposure of successful efforts need to be encouraged;

- ◊ with intensive dialogue involving related agencies and NGOs, several NGOs have successfully participated in the project activities including hygiene promotion, community mobilization, and provision of stimulants. NGOs have contributed to the efforts to improve community preparation process;
- ◊ there is a need for local input in conducting hygiene and sanitation education and its relation to disease transmissions.
- ◊ messages of hygiene and sanitation education should be prepared and conveyed by local people;
- ◊ communities, especially women and school children, have a high potential in planning, implementation, and evaluation of the projects;
- ◊ decisions for changing community behavior and how needs to be done by local people.

10. Major Constraints

Some major constraints encountered by the Sanitation Program are as follows:

- ◊ inadequate monitoring and reporting system. There is no regular reporting on implementation activities to the upper levels. This result in that many provinces are still unable to present their WSS coverage data on the development trend as different agencies have different kinds of data;
- ◊ insufficient capacity to facilitate community-based activities. This is due to a lack capacity among sanitation managers, and also among community institutions;
- ◊ weak coordination of various resoures available resulting in ineffective use of resources and missed opportunities. For example, various new programs including school feeding program (PMTAS) and village infrastructure development programs (P3DT) have not been utilized as opportunities to improve the WSS program.

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MALDIVES – COUNTRY STATUS REPORT

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MYANMR – COUNTRY STATUS REPORT

REGIONAL CONSULTATION ON
NEW APPROACH TO SANITATION FOR HIGH RISK COMMUNITIES
POKHARA, NEPAL 17-19 NOVEMBER 1998

COUNTRY REPORT ON SANITATION PROGRAMME IN MYANMAR THROUGH SOCIAL MOBILISATION PROCESS AND SELF-HELP FINANCING SYSTEM

CONTENTS

Executive Summary

Sanitation coverage in Myanmar is still low, only 46% as of end 1997. The Universal Access to Sanitation by the year 2000 and Sanitation for all by 2000 are the main goals of the Convention of the Rights of the Children and the Myanmar's National Health Policy.

As the end of the century is drawing near and the present coverage is quite low, it will be too optimistic to set the target of full 100%. Considering the available resources and taking into account the communities present cultural, social and economic situations, a possible and practical target of 80% coverage was set without loosing sight of the main goal to be achieved later finally.

Strong political commitment has been received recently and high priority attachment has also been accorded which is the key to the success of the programme as evidenced by the success story of the National Sanitation Week.

A review made in early 1996, revealed that the present strategy of supply-driven, top-down approach is no more appropriate and should be substituted with demand-driven, need-based community participatory approach using social mobilisation process and self-help financing. Accordingly a shift in strategy was made resulting remarkable success.

This paper deals with Introduction, Background Information, Present situation, Technology, Successful story, New Approaches/Strategy, Organisation, Cooperation and Collaboration. Training and Future plan and attempts to highlight the effectiveness of the social mobilisation process and self-help financing system.

SANITATION PROGRAMME IN MYANMAR THROUGH SOCIAL MOBILISATION PROCESS AND SELF-HELP FINANCING SYSTEM

1. Introduction

Safe and adequate drinking water supply, proper disposal of human excreta and systematic use of sanitation facilities and sound practices of personal hygiene are all interlinked and complementary to each other for the promotion of health and socio-economic well-being.

Considerable achievements have been made in sanitation since the launching of the International Drinking Water Supply and Sanitation Decade (IDWSSD, 1981 - 1990); but however the population coverage is still low (46% in 1997). A recent study on handwashing practices reveal that only 17.5% wash their hands with soap and water after defecation, 38.2% use water only and 41.7% do not wash their hands at all. All these factors attribute to high incidence of excreta related diseases, especially diarrhoea, causing about 150 000 episodes annually and registering about 65% of total water and excreta related diseases.

Low coverage of safe drinking water supply (49 % in 1997), coupled with even lower coverage of sanitation and poor personal hygiene practices call for intensive and extensive efforts in all these three areas, but more specifically in sanitation and personal hygiene promotion.

To meet these challenges the conventional long standing strategy of top-down supply driven approach was replaced by community-based self-help financing demand driven and participatory approach using social mobilisation process to bring together all feasible, potential and practical allies from multisectoral organisations, to raise the awareness of the people, motivate them and for their positive behavioural changes and to create demand for these facilities. This also helps to mobilise community' s resources and strengthen community participation for promoting sense of ownership and responsibility for long term sustainability, fostering the spirit of self-reliance.

2. Background Information

Formulation of the Country Health Programme (CHP) in 1977 and follow-up implementation action on People's Health Plan (PHP) starting from 1978, the role of the Environmental Sanitation Division (ESD) of the Department of Health (DOH) has been raised and its responsibility and area of jurisdiction extended from merely health care

institution in rural areas to the entire rural population countrywide. Its activities become more significant with the implementation of sanitation programmes during the International Drinking Water Supply and Sanitation Decade (IDWSSD) during which quite appreciable inputs were received from the international donors. Central Health Education Bureau (CHEB) of MOH with its staff at the state/divisional level disseminate health and personal hygiene education utilising Basic Health Staff (BHS) and NGOs at the local levels.

Use of latrines in Myanmar, even in the rural areas is not uncommon although some very poor families may opt for fields and bushes. However, the majority of the latrines are not sanitary and fly-proof and the use of these latrines is mostly for the sake of privacy and convenience rather than for health and hygiene.

In order to famaliarise the use and construction of sanitary fly-proof latrines and to assess the preference of different types of latrines, a pilot project was carried out in 1982 by constructing 17 000 units of 4 different types of sanitary latrines (VIP dry type, pour-flush direct pit with water seal, pour-flush offset pit with water seal and pour-flush offset pit without water seal) in 5 different geographical regions of 8 states and divisions of 13 townships in 194 villages. Evaluation study revealed that the last type using HDPE pan and pipe was the one preferred most by the users. The pit is generally lined with bamboo matting but must have a fly-proof cover. The superstructure of the building depends upon the affordability of the owner and varies from bamboo posts, floor and walling with thatch leaves roofing to timber or masonry structure.

After selection of this type of latrine as an appropriate technology, full swing implementation programme started in 1983 with the full support of the international donors supplying HDPE pans and pipes. Cost sharing approach was used in this sanitation programme, the donor supplying the hardware (HDPE pans and pipes), the government bearing the cost of clearing, handling and storage of materials on arrival and the community sharing the local transportation costs and cost of construction, the ratio being about 15%, 5% and 80% respectively.

The selection of townships and villages was usually done at the central level between the donors and the government and sometimes at the state/divisional and township levels, but very seldom at the grass root level of the villages. This system went on through the IDWSSD (1981-1990) and up to the end of the middle of this decade.

3. Present Situation

Coverage

In order to assess the situation of Myanmar children and to produce the very first consolidated data set disaggregated at the sub-national level by urban/rural residence and by gender, a Multiple Indicator Cluster Survey (MICS) was carried out in 1995 in the areas of Health and Nutrition, Education and Water and Sanitation. In 1997 second MICS was also conducted to monitor the progress of the respective activities. The following tables gives the results of the survey regarding sanitation coverage by type of technology. Population Coverage % for Sanitation by type of Technology

Table I

Type of technology	1995			1997 (Provisional)		
	Urban	Rural	National	Urban	Rural	National
- Flush to sewerage system(public)	1.5	1.4				
- Flush to septic tank system(private)	7.5	1.6				
- Pour flush latrine (wet type)	19	13				
- Covered pit latrine (dry type)	28	20				
Total	56	36	43	65	39	46

Note: 1997 figures are provisional only.
Detailed breakdown by type of technology for 1997 are not yet available.

It could be seen from the above table that the covered pit latrines (dry type) are most common followed by pour flush latrines (wet type)

4. Policy, Commitment and Contribution

Policy

National Health Policy emphasises intensification and expansion of environmental health activities including prevention and control of air and water pollution.

Commitment

National Health Committee (NHC) has also accorded its commitment by passing a resolution mandating the Ministry of Health (MOH) and Ministry for the Progress of Border Areas and National Races and Development Affairs (MPBANDRA) to coordinate and implement systematic construction and use of fly-proof sanitary latrines throughout the country, both in urban and rural areas by the year 2000.

In support of the the policy and commitment the "Sanitation Week" was launched on 11 to 17 May 1998 countrywide with the objective of motivating the community and building one million sanitary latrines through self-help financing and applying social mobilisation process by building alliance between multisectoral groups, empowering the community and encouraging them in participatory methodology of approach.

Contribution

Prior to 1996 top-down supply-driven strategy with cost-sharing incentive oriented approach was used in programme implementation. HDPE latrine pans and pipes were supplied by the donor and issued to the community free of charge as incentive. Government's contribution was in the form of clearing, handling and storage charges and the community cost included local transportation charges and construction costs. The ratio of contribution by the donor, the government and the community was about 15%, 5% and 85% respectively.

Starting from 1996, the conventional top-down supply-driven strategy was changed to demand-driven need-based community participatory strategy using social mobilisation process and self-help financing system. This shift in strategy has greatly changed the contribution ratio and the responsibilities. Inputs and contributions from donors are mostly used in software for advocacy campaigns, social mobilisation and communication activities through workshops, training courses, demonstration, monitoring and evaluation and hygiene education. Very limited hardware supply is made for demonstration purposes only.

On the government side, the contribution is mostly on technical services, capacity building, transfer of technology and dissemination of knowledge through IEC. There is no subsidy system by the government.

NGOs also take part in rendering their voluntary services in advocacy campaigns and in organisational activities.

Most of the contributions especially the financial portion come from the individual families as the strategy itself is self-financing.

5. Technology

Since the strategy is need-based community participatory using social mobilisation approach and self-help financing system the technology must be simple, affordable, fairly sustainable using locally available materials and artisans. The following table gives the technical options for urban and rural sanitation programmes.

Table II
Type of Technology for Urban and Rural/Periurban Sanitation

Technology	Urban	Rural and Peri-urban	Remarks
1. Water-borne sewerage			
- connection to public sewer	/	?	Mostly in urban
- connection to private septic tank	/	/	Both urban and rural
2. Pour-flush system (wet type)			
- direct pit, vented/not vented	/	/	Both urban and rural
- off-set pit, vented/not vented	/	/	Both urban and rural
3. Sanitary pit latrines (dry type)			
- fly-proof, and covered, vented/not vented	?	/	Mostly in rural

Note: - Latrine pans may either be ceramic, concrete, HDPE, wooden, sheet metal or bamboo receptacle depending upon the affordability
- Connecting pipe may either be HDPE, covered wooden trough or bamboo pipe made hollow by removing internal partitions.

6. Successful Story - "The Sanitation Week": From Policy to Action

Learning from Experience and Advancing Forward

As mentioned in the Background Information section of this paper, although the sanitation programme went into full swing since 1983 with strong support from donor agencies, the rate of progress was rather slow, only 1.4% annual increase inspite of the incentive (free supply of HDPE pans and pipes) to the community. Community became more and more dependent on the free supply of materials and did not take initiative. Although the latrines have been constructed it was found in some instances that these facilities were not properly used and maintained and a few of these were even not used at all.

In a review meeting conducted in 1995 it was concluded that all these consequences were the result of unchanged behavioural patterns, weak personal hygiene practices, lack of sense of ownership and responsibility and poor community involvement and participation.

It was therefore decided that the conventional strategy should be replaced by a more innovative one using community participatory approach, social mobilisation process and self-help financing system. This new programme was founded on self-help approaches driven by three basic fundamentals:

- first, a minimum latrine standard which requires that the excreta be contained in the covered pit in the ground,
- second, a low-cost and do-it-yourself concept using locally available materials and manpower,
- third, intensive social mobilisation.

The National Sanitation Week: A Million New Sanitary Latrines

Although the national coverage is below 50%, there are some townships with coverages over 70%. In order to energise the national programme the National Sanitation Week was launched for the first time on 11 to 17 May 1998. The goal was to motivate one million families to construct their own latrines. This ambitious goal which covers about 12 percent of the households of the country was based on motivating 15 families in each of the Myanmar's 66 000 villages and wards to construct their own latrines - a doable task at the village level of the rural areas and ward level of the urban areas.

Preparing for the National Sanitation Week

The preparatory activities for the Sanitation Week included a series of planning meetings organised at the central, state and division and township levels. Health teams visited various states and divisions to organise support from various groups, including NGOs, school teachers, 10-household leaders, village and ward leaders, for this significant event. Production of information and communication materials, such as poster, pamphlets, slogan posters, photo exhibits and videos went on full scale. In addition, a video cassette on how to build your own sanitary latrines added to the know-how of the implementors, the field mobilizers and other change agents, Furthermore, local authorities erected billboards on the National Sanitation Week at their own expense.

Official Launch of the National Sanitation Week

The launching of the First National Sanitation Week in Myanmar was inaugurated by Lt. General Khin Nyunt, Secretary I of the State Peace and Development Council and the Chairman of the National Health Committee, and Dr. Juan Aguilar Leon, UNICEF Representative in Myanmar and attended by some 10 ministers, high level officials, United National personnel, other key partners including NGOs and the private sector.

Secretary I of the State Peace and Development Council and the Chairman of the National Health Committee highlighted that the number of diarrhoeal episodes reported in health facilities are over 150 000 annually, caused largely by lack of knowledge and weakness in personal hygiene and sanitation. Improved health is seen as crucial for increased productivity of the country. Considering access to safe potable water and sanitation facilities as important indicators in social development status of the country, he urged each and everyone, including multisectoral government departments and non governmental organisations, should make concerted efforts and undertake sanitation activities as a national endeavour, and ... the national sanitation week as a mass movement.

In emphasising the commitment made at the World Summit for Children by Myanmar, the UNICEF Representative urged renewed efforts so that the children of Myanmar can be healthy, happy, vigorous and bright. Highlighting the negative impact of poor sanitation on the health of children, on productivity of the population and on expenditure on health treatment, he believed that the strategy to achieve Sanitation for All by the year 2000 based on three important elements, namely low cost, self help and social mobilization are effective to accelerate access to sanitation. The goal can be achieved with the support of various partners, including UN colleagues, NGOs and the private sector. Dr. Aguilar stressed the well defined goal to motivate families all across the country to build one million latrines ... a very ambitious but doable target.

The do-it-yourself approach was emphasised through photo display and models of affordable sanitary latrine designs. The increasing role of the private sector, which can produce plastic latrines pans at less than Ks 650 or 3 US dollars, and therefore provide wider choice to the families, is recognized. The Sanitation Week was seen as a significant step on the road to universal access to sanitation. And the viability of the shift from latrine pan distribution to the self-help do-it-yourself approach was further elaborated during the seminar which followed the inaugural session. The national television which broadcast educational and advocacy messages, and newspapers which printed articles promoting Sanitation Week added momentum to this national event.

National Sanitation Week in Action

Travelling to a sample of townships and villages in the country has allowed field teams to capture a sense of the response of the people at sub national and grassroots levels. More of the programme planners and implementors are being convinced of the strategic shift from latrine pans provider to promoter of self-help approach, after watching the video on how to build your own sanitary latrines and witnessing what the villagers and towns dwellers have done.

Certain villages have set higher targets for sanitary latrines. Social mobilisation, with the active participation of health and NGO workers, teachers and the 10-household leaders created a sense of ownership. In order to bring sanitary latrines within the reach of all families, including the poor families, village leader like U Tin Sein has organised the collective purchase of bamboo for many families to cut down costs. The use of materials available locally and within the home compound was widespread. Furthermore, many families chose to build latrines with their own hands.. The outcome was a wide range of low cost and appropriate latrine designs suited to the individual family preference and affordability.

One villager observed : No, it did not cost me anything to build my sanitary latrines. I used my own building materials and I also got some from my friends. I built it myself.

A poor farmer stated: I am poor, and I cannot afford to build my own latrine. I was pleased that my neighbours provided me with building materials and financial help

The reports received from 296 of the 324 townships as at end July 1998 showed that about 726 000 new sanitary latrines were constructed. This represents additional access to sanitary facilities for almost 10 per cent of the population, a notable achievement and stimulus for further action. See Annex I for details.

Building on the National Sanitation Week

Field observation revealed that many township authorities spurred by the National Sanitation Week, have set challenging targets to achieve the goal of Sanitation for All even before the end of the decade. Encouraged by the enthusiasm and active involvement of the villagers and field motivators, as well as their greater confidence on what needs to be done, they plan to sustain the momentum created by the event till the goal is reached.

Looking to the Future

The task remains challenging as the decade-end approaches. However, there is greater optimism that sanitation coverage of 80 percent and above can be realised by the year 2000 as the programme is increasingly being driven by the positive lessons and reported successes... a situation of success breeding success. Another National Sanitation Week in 1999 is already in the process. Proper hand washing practices, particularly before handling food and after defecation, is worth considering as part of the next National Sanitation Week.

7. New Approaches/Strategies

As stated in the foregoing section of this paper Myanmar has already embarked into the new approach/and strategy, viz self-help and self-reliance need-based driven community participatory approach using social mobilisation process.

Social moblisation is a process and not a strategy. It includes advocacy campaigns to raise the awareness of the people, motivate the community, mobilise all possible and potential resources, build alliance and seek partnership working in harmony towards the common objectives and goals using various media and channels of communication to reach the grass-root level.

Social mobilisation is analogous to SARAR (Self-esteem, Associative Strength, Resourcefulness, Action planning and Responsibility) Later on innovative approach was further developed in the name of PHAST (Participatory Hygiene and Sanitation Transformation) by adapting SARAR methodology to promote participatory approach in community self-management sanitation and hygiene programmes. See Annex II.

In Myanmar a similar approach in the name of Community Based Health Education for Water and Sanitation (CBHEWATSAN) was used about a decade ago for the promotion of awareness raising and behavioural changes and personal hygiene

practices with focus on the grass root level of the community. However, this programme was disrupted due to lack of financing, low priotisation and weak political commitment._

Achievements

Although the new approach of self-help financing using social mobilisation process was started in 1996, almost this initial year was spent in formulation, planning advocacy campaign, alliance building, IEC and training activities,, Actual field implementation could start only in 1997 and intensified in 1998 especially with the launching of the National Sanitation Week mass movement resulting a remarkable success as shown in the table below.

Table III
Comparison of Achievement before and after
the use of Social Mobilisation

Before Social Mobilisation			After Social Mobilisation			
End 1990	End 1995	Average annual increase %(5 years)	End '95	End '97	Mid '98	Average annual increase %(2.5yrs)
36%	43%	1.4%	43%	46%	55.2%	4.88%

It could be seen from the above table that the progress made after the application of social mobilisation process is much more (4.88%) average annual increase than that made before the social mobilisation process (1.4%) average annual increase.

Factors Influencing Achievement

1. High political commitment and attachment of high priority
2. Choice of technical options by the community depending upon their affordability.
3. Countrywide existence of infrastructure of implementation agencies and their technical and administrative capability.

4. Intersectoral linkages and networking among government, non-government and international organisations.

5. Participatory approach by the community and strong support of the local administrative authorities.

Issues

Although achievements are taking into shape, there still remain some issues which include:

1. Communities' awareness is not fully realised.

2. Use of both government and private media channels for IEC activities is limited.

3. Monitoring and interaction between the central level and state/divisional and townships levels is inadequate. Situation is worsened by limited field visits to remote areas with difficult access.

4. Weak integration of sanitation and personal hygiene into other health related programmes carried out by both government and non-government organisations is low and needs further strengthening.

8. Organisation, Cooperation and Collaboration

ESD of DOH, MOH is a sanitary engineering section under the management of the Public Health Division of the medical profession. ESD is responsible for the implementation of the sanitation programmes in the rural areas in cooperation with the CHEB for health education and social mobilisation activities. Development Affairs Department (DAD) of MPANRDA is responsible for urban sanitation. Here only the rural sanitation programme will be discussed.

ESD has its staff only at the central level for planning and overall monitoring of the progress through frequent site visits. CHEB has its staff not only at the central level, but also at the state/divisional levels to carry out health education activities associated with health including water and sanitation. Township Medical Officers (TMOs) and Township Health Officers (THOs) generally manage the overall activity. The Basic Health Staff (BHS) including Public Health Supervisors (PHS), Midwives (MWs) and Auxiliary Midwives (AMWs) actually supervise day-to-day construction and health education activities.

In order to give guidance and overall supervision of the programme a central supervisory committee was formed with the Director General, DOH as the Chairman and responsible persons from various departments and nongovernmental organisations as members of the committee. Similarly, supervisory committees at state/divisional level, township level and village levels were also formed and their Terms of Reference clearly defined.

Strong cooperation from local NGOs, like Myanmar Red Cross Society (MRCS), Auxiliary Fire Brigade (AFB), Union Solidarity and Development Association (USDA), Myanmar Maternal and Child Welfare Association (MMCWA) etc. has also been received at all levels. Collaborative efforts among the government agencies like education, information, communication and culture are also being made through school network, newspapers, television and radio network, and public shows, traditional dances and dramas. Private sector collaboration is also received through video spots shown in private video parlours which are very popular even among the rural community.

Collaboration is also strong among the UN and other International organisations including INGOs as evidenced by the regular monthly coordinating meetings of the UN Thematic Group on WATSAN comprising UNDP, UNOPS, UNICEF, UNHCR, UNDCP, UNCHS and WHO and also through bi-monthly meetings of the Collaborative Watsan group including the UN Thematic group plus INGOs like CARE Australia, ACF, MSF, World Vision (WV), SCF and ADRA.

9. Training

Social mobilisation is a process concerning communication strategy including advocacy, mobilisation of social allies and programme communication to target groups through various mass media and training.

As mentioned earlier, the population coverage for sanitation has not even reached 50%. Although the "Universal Access to Sanitation by the year 2000" and "Sanitation for All by 2000" have been accepted as the ultimate goal, a feasible and practical target of 80% coverage has been set for 2000. This is an enormous and challenging task to the implementors especially when we are applying social mobilisation process and self-help financing system.

An orientation workshop on Social Mobilisation for Water, Sanitation and Hygiene was conducted at the central level in late 1996 inviting donors of international organisations, related government sector agencies (ESD, WRUD, CHEB) local NGOs (Red Cross, MMCWA, YMCA, YWCA), potential social allies (Education, Social Welfare, Information & Public relations, Myanmar Radio & TV) and selected health officials and basic health staff from districts. VIPP system of workshop practice was used to introduce the participatory approach by all participants attending the workshop.

The workshop dealt with the introduction of social mobilisation process, the methodology, identification of needs (Needs Assessment) prioritisation of the problems and their solutions, seeking and identification of potential social allies, identification of mobilisers and their terms of reference and the focus groups.

In early 1997, another central level seminar cum workshop was conducted with the objective of promoting advocacy with a view to gaining acceptance from political and social leaders and preparing a society for the development of the programme. It was attended by high ranking government and non-government organisations. VIPP system of workshop practice was also used to convince the effectiveness of the participatory approach. This seminar cum workshop has motivated the participants who committed themselves for working together in partnership.

A central level Task Force was formed to formulate the plan of action including preparation of guidelines for holding workshops and training courses, preparation of texts explaining the social mobilisation approach, procedures for participatory system, guides for training of trainers and selection of appropriate flip charts, hand-outs, guidebooks and posters to be used for the programme. Number of participants attending advocacy and planning workshops and training courses conducted are given in Annexes III and IV. Needs Assessment Surveys (NAS) are also carried out to determine the actual needs, affordability and willingness of the community. List of NAS is given in Annex V.

In order to reduce the cost of constructing the fly-proof sanitary latrines and to reduce the financial burden on the poor people, designs using locally available materials have been introduced and field tested. Demonstration latrines using HDPE pans and pipe and also using locally available materials were constructed at village level to demonstrate the technique for containing the excreta in a closed pit and preventing flies, insects and rodents entering into the pit. Sketches are shown in Annex VI.

10. Future Plan

After two and half years of implementation the following lessons have been learnt.

- Advocacy initiatives, training activities and conducting workshops are effective provided that the implmentors, especially the mobilisers at the local level, translate the information and know-how into actions with dedication.

- School net-working proved to be the most effective using teachers, parents and students as mobilisers, change agents, multiplier health educators, implementors as well as beneficiaries.

- Provided there is a strong commitment and firm backstopping implementors have used their initiatives and resources to make things happen and accelerate progress by working together with the community.

- creation of awareness has generated demand for HDPE pans as reflected by the growth of local manufacturing enterprises.

- The dedicated leadership's role, supported by local administrative body's enthusiasm decides the degree of success.

- active management of the programme combined with regular monitoring and feed-back enhances the performance of the programme.

Considering achievements, issues and lessons learnt the following plan has been formulated regarding approaches/strategies, targets and priority focus.

Approaches/Strategies

As Myanmar has already embarked into the new approach and strategy of self-help and self-reliance need-based driven community participatory approach using social mobilisation process and remarkable progress has been made, this approach and strategy will be firmly held to reach the goals of the programme.

Targets

Although the ultimate goal calls for "Universal access by the year 2000" and "Sanitation for all by the year 2000", it will be too optimistic to set that goal as a target for 2000. Giving due considerations regarding present progress, communities' economic, social and cultural situations and the remaining time frame, the authorities decided to set the target of 80% coverage by the year 2000.

Priority focus

The priority focus is on the high risk areas both in urban and rural areas. Border areas which are deprived of all these facilities are also given a high priority for the purpose of development especially in health. High risk areas include congested places, slums, flooded and low-lying areas, areas along the banks of the water courses, and areas along the transportation routes and public eating places where there are either no latrines, open pit latrines, hanging latrines from which pollution and incidence and transmission of diseases could easily occur.

ABBREVIATIONS

ACF	Action Contra la Faim
ADRA	Adventist Development and Relief Agency
AFB	Auxiliary Fire Brigade
AMW	Auxiliary Midwife
BHS	Basic Health Staff
CBHE	Community Based Health Education
CHEB	Central Health Education Bureau
CHP	Country Health Programme
DAD	Department of Development Affairs
DOH	Department of Health
ESD	Environmental Sanitation Division
HDPE	High Density Poly Ethylene
IDWSSD	International Drinking Water Supply and Sanitation Decade
IEC	Information, Education and Communication
INGO	International Non-Governmental Organization
MMCWA	Myanmar Maternal and Child Welfare Association
MOH	Ministry of Health
MPBANRDA	Ministry for the Progress of Border Areas and National Races Development Affairs
MRCS	Myanmar Red Cross Society
MSF	Medicins Sans Frontieres
MW	Midwife
NAS	Needs Assessment Survey
NGO	Non Governmental Organization
NHC	National Health Committee
PHAST	Participatory Hygiene and Sanitation Transformation
PHP	People's Health Plan

SARAR	Self-Esteem Associative Strength Resourcefulness Action Planning and Responsibility
SCF	Save the Children Fund
S/D	State/Division
SOCMOB	Social Mobilisation
THO	Township Health Officer
TMO	Township Medical Officer
Tsp	Township
UNCHS	United Nations Center for Human Settlements
UNDCP	United Nations Drug Abuse Control Programme
UNDP	United Nations Development Programme
UNHCR	United National High Commission for Refugees
UNICEF	United Nations International Children's Emergency Fund
UNOPS	United Nations Office for Project Services
USDA	Union Solidarity and Development Association
VIP	Ventilated Improved Pit
VIPP	Visualisation In Participatory Programme
WATSAN	Water and Sanitation
WHO	World Health Organization
WV	World Vision
YMCA	Young Men's Christian Association
YWCA	Young Womens Christian Association

ANNEX I

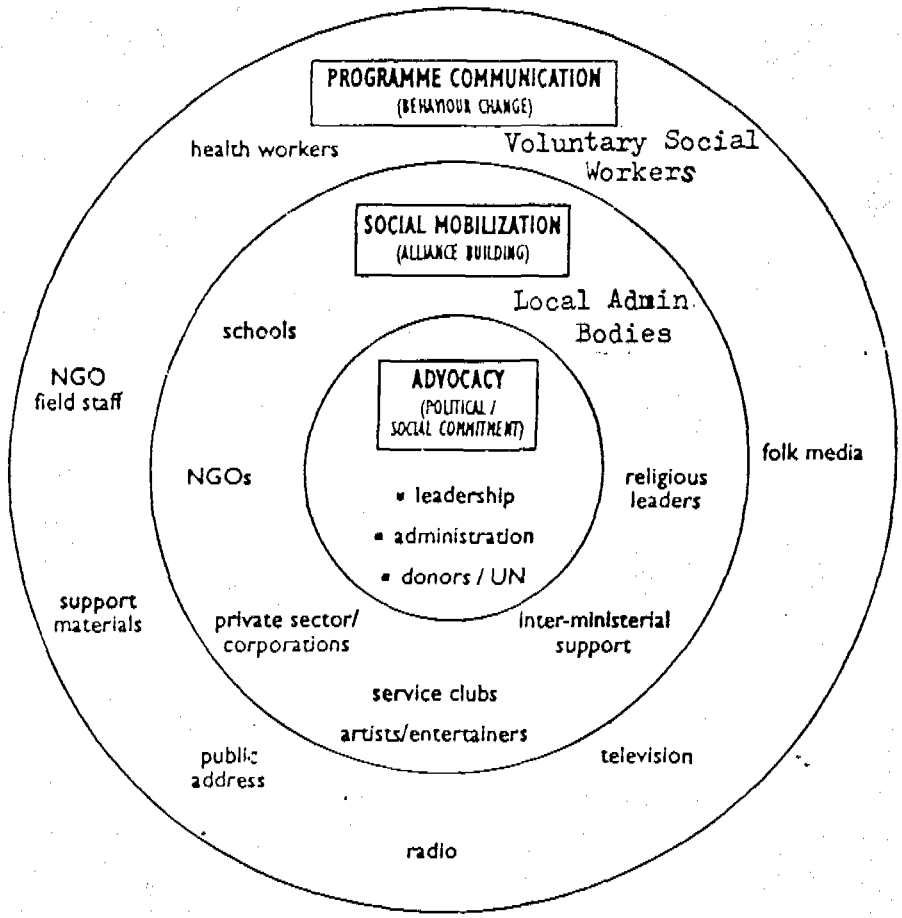
Construction of fly-proof sanitary latrines during the National Sanitation Week

(as of end July 1998)

SN. State/Division	Total Tsps	Reported townships	Urban	Rural	Total latrines
1 Kachin State	18	10	1 345	4 252	5 597
2. Kayah State	7	7	1 023	4 757	5 780
3. Kayin State	7	6	1 649	19 567	21 216
4. Chin State	9	3	122	3 497	3 619
5. Sagaing Division	38	37	7 824	114 031	121 855
6. Tanintharyi Div.	10	10	1 639	11 727	13 366
7. Bago Division	28	28	7 544	77 670	85 214
8. Mon State	10	10	2 187	18 082	20 269
9. Magway Div.	25	25	7 655	50 717	58 572
10. Mandalay Div.	30	30	24 277	84 540	109 817
11. Shan St.(North)	25	15	2 219	17 074	19 293
12. Shan (South)	21	21	4 262	35 452	39 714
13. Shan (East)	10	10	926	5 253	6 179
14. Yangon Division	43	43	7 436	19 716	27 152
15. Rakkhine State	17	15	2 581	31 351	33 932
16. Ayeyarwaddy Div.	26	26	15 726	139 783	155 509
Total	**324**	**296**	**88 615**	**637 469**	**726 084**

ANNEX.II

Social mobilization for sanitation



Adapted from McKee 1992

Communication strategy for sanitation for all

Annex III

Number of Participants attending the Advocacy and Planning Workshops , 1996 and 1997

Description	Organised by			
	Government and WHO	Government and UNICEF	Government and UNDP	TOTAL
State/Division	320	400		720
District level	275			275
Township level		1 947	330	2 277
TOTAL	**595**	**2 349**	**330**	**3 272**

Annex IV

Number of Participants attending the Training Courses conducted in 1996 and 1997

Description	Organised by		
	Government and UNICEF	Government and UNDP	Total
Training of trainers for Social mobilisation	636		636
Training of mobilisers	13 528		13 528
Training of trainers for sanitation through school network	100		100
Training of PTA Chairpersons for sanitation through school network	10 639		10 639
Township/Village training		8 954	8 954
Artisans training		600	600
Watsan Team training		390	390
NAS training		405	405
Sanitation & HE training		240	240
Handwashing training		120	120
Fly-proof latrine construction		900	900
Monitoring and Evaluation		60	60
Total	24 903	11 669	36 572

Annex V

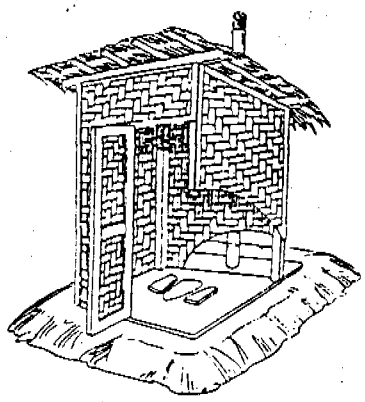
List of Need Assessment Surveys (in numbers) 1995 to 1997

Beneficiary/Respondent	By UNICEF	By UNCHS	Total
- For community		2 840	2 840
- For educational institutions	1 793		1 793
- For Health care institutions	70		70
Total	1 863	2 840	4 703

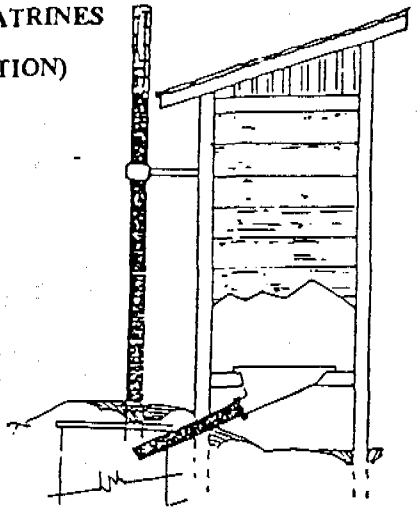
ANNEX VI

LOW COST SANITARY LATRINES

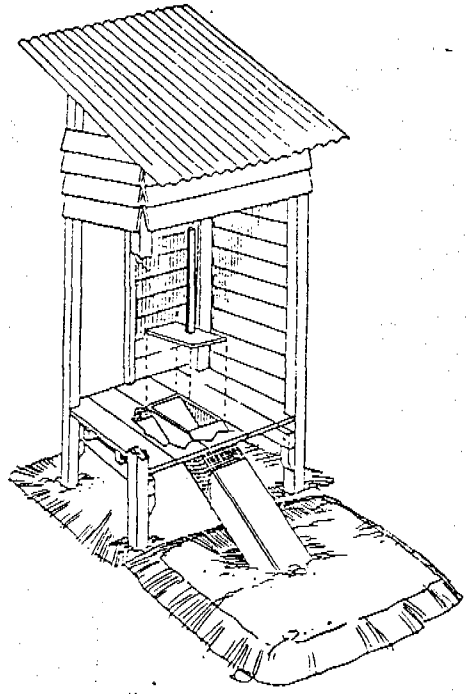
(FOR NORMAL CONDITION)



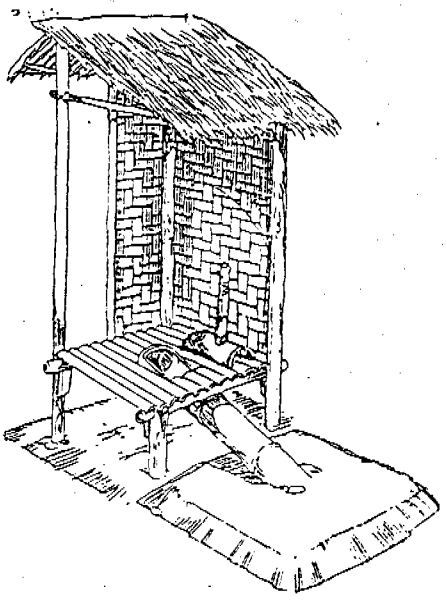
SIMPLE DIRECT PIT
(Dry Type)



Pour Flush Offset Pit
PVC Pan (Wet Type)

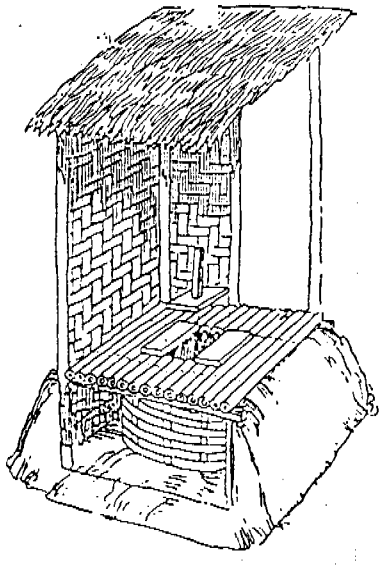


Pour Flush Offset Pit
Wooden Chute (Wet Type)

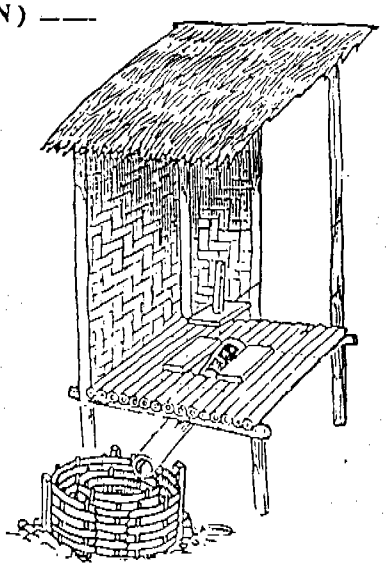


Pour Flush Offset Pit
Bamboo Pipe (Wet Type)

(FOR FLOODED CONDITION)



Direct Pit, Raised Floor
(Dry Type)



Pour Flush, Offset Pit,
Raised floor (Wet Type)

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/6.1.8
07 October 1998

NEPAL – COUNTRY STATUS REPORT

COUNTRY STATUS PAPER

(NEPAL)

Paper Prepared for

WHO REGIONAL CONSULTATION

ON

NEW APPROACH TO SANITATION.

POKHARA, 17-19, NOVEMBER, 1998

By

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Country Status Paper, Nepal

Regional Consultation on New approach to Sanitation[1]

(Pokhara 17-19 November, 1998)

1. Introduction

1.1 Country Background :-

The kingdom of Nepal is a mountainous Country with a population of 21 million (1997). The proportional distribution was 7.8% in mountainous, 45.5% in hills, & 46.7% in the Terai (plain areas) of the country. The population concentration is largely in rural areas with 90% of its inhabitants and only 10% of it live in urban areas. Agriculture is the major economic sector and contributes 56% of the Gross Domestic Product. The migration of rural people to the urban, semi-urban areas and market centers is taking place at a faster rate in the country. This trend has put on extra pressure on the Government in providing basic services and infrastructure facilities to the people.

Difficult terrain and large variations in ecological geographical & social mode poses a still more difficult challenge in implementing a country wide program.

A recent study has estimated that the infant mortality in Nepal is 98 per thousand and child mortality and under-five mortality rates are 51 and 144 per thousand respectively. The same study also establishes that source of drinking water used by the Household & type of sanitary facility have an effect on the level of infant and child mortality & lower mortality rates have been observed for families using piped water supply & flush & pan latrines than for families without access to safe water collection & safe excreta disposal.

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1. Prepared by :- G.P. Shrestha, Joint Secretary, Ministry of Housing & Physical Planning, HMG, Nepal

1.2 Present Sanitation Situation:-

Sanitation is defined as " the service of safeguarding health" Sanitation considered in broad context includes systems of human waste disposal, management of solid wastes, practice of hygiene at personal and household levels, proper drainage & sewage in towns & villages, and control of environmental pollution. In a restricted sense sanitation is mainly related to practice of personal, household, community hygiene & disposal of human wastes excreta. The provision and use of household and institutional toilets(latrines), has, thus, been used as a primary indicator of access to sanitation.

Several donor agencies (Bilateral, Multilateral and International institutions), Non Governmental organizations(NGOs) & International non Governmental organizations(INGOs) have been involved in this sector development since some couple of decades. Coverage on sanitation is difficult to measure as there is still to define acceptable indicators for measurement of coverage. Based on access to sanitary facility for human excreta disposal as the indicator of sanitary on coverage, the current state of sanitation in the country is found to be very low. It is assumed that present national (by the end of Eighth five year plan) coverage for 1996/97 is 16% in rural areas and 51% in urban with the country average being 20% (according to estimates of the National planning Commission).

Current Sanitation Situation

Population & access of latrines	Rural	Urban	Total
Population (1996/97)in 1000	2900	1530	4430
Proportion of population with access to latrines	16%	51%	20%

According to the Nepal Multiple Indicator surveillance Survey(NMIS), the national Coverage rate with access to latrines was just 15%, with 63% in urban areas and 12% in rural areas. (NMIS, Diarrhoea, water and Sanitation, final report, June 1997).

A type of technology used in rural areas of hills is of simple pit latrine using local materials and concrete slab and only a few of pour flush & offset pit latrine where there is enough quantity of water near by the toilet. But in rural Terai Pit Latrines, using local materials & concrete slabs and in some areas where water level is high using concrete ring liners and concrete slab with raised platform are found. Similarly, in urban areas, pour flush latrines connected with septic tanks are found except in Kathmandu Valley core areas where household latrines are connected directly to sewerage system. In some rural areas double pit latrines can be found for pour flush type of latrines.

2. Present policy of the Government on sanitation :

Nepal has been taking various measures for improving the sanitation situation in the country particularly since the launching of the International Drinking Water Supply & Sanitation Decade ((1981 - 1990). The Government's policy & programs in this subsector have been consistent with the goals of Health for all by 2000, the Basic Minimum Needs Program. The Government has given more emphasis stating the sanitary policy in its plan documents from Eight Five Year Plan (1992/ 97), in which it was mentioned that the integrated implementation of drinking water & sanitation programs will be launched, involvement of users' community, provision of training on latrine construction, promotion of sanitation educating & providing, sewerage & drainage system in urban areas are given due preference.

2.1 Sanitation Policy

Ministry of Housing & Physical Planning (MHPP), the Department of Water Supply & Sewerage (DWSS) announced a new policy on "Nepal National Sanitation Policy & Guidelines for planning & Sanitation in 1994." The policy defines sanitation as implementation of sanitation program including all activities that improve & sustain hygiene in order to raise quality of life & health of an individual. It includes

(1) Proper methods of disposal human excreta.;
(2) Personnel hygiene;
(3) Food hygiene ;

(4) Proper handling, storage & use of drinking water ;

(5) Proper solid & liquid waste disposal, and

(6) Proper animal waste disposal.

Thus, sanitation should not be understood just as latrine construction alone, but as a package of activities & services related to personal, household & environmental hygiene.

Sanitation is everyday part of human life, and therefore, is a basic need of Nepali people. Every citizen of the Kingdom has the basic right to have both an understanding of sanitation, personal hygiene practices & acquire adequate sanitation facilities. So His Majesty's Government (HMG) will make a constant endeavor to protect the environment, improve the environmental sanitation & control any activity which endangers health & the productive life of Nepali people.

The policy aims at

(i) Bringing about changes in people's sanitary behavior & practices through health education, information & community mobilization.

(ii) Ensuring Community Involvement, particularly women's involvement & sanitation promotion activities.

(iii) Encouraging participation of NGO's and voluntary organization and community based organization (CBO).

The stress of the policy is to promote behavior change, community involvement and NGO/ CBO participation.

2.2 Sanitation policy in the Ninth Plan (1997 - 2002)

Ninth Plan's Policy states that:[2]

(a) Awareness will be raised among local communities with regard to environmental sanitation, & their level of understanding of health education will be raised. Sanitation program will be promoted on their own initiatives. Activities related to drinking water and sanitation will be carried out in an integrated form.

(b) A district profile of each district showing the status of water supply & sanitation, and possibilities of development will be prepared & used for long term planning of district water supply and sanitation will be the aim.

(c) The private sector, NGO's and local organizations will be mobilized for the development of water & sanitation. Private sector will be involved in supplying sanitation units & construction materials.

(d) Activities will be carried out for developing middle level manpower needed for water and sanitation Programs. Similarly, local user groups will be provided orientation & training, Central Human Resources Development Unit (CHRDU) will be developed as a semiautonomous organization for manpower development.

(e) Water Supply and Sanitation Program implementation will be regularly monitored.

The above polices are consistent with the National Sanitation Policy, 1994. The stress of the policy is on creation of awareness, involvement of NGO's, communities and private sector, development of manpower, increasing capability of user groups on monitoring.

[2] Ninth Five year plan(1997-2002).

2.3 Present Contribution to Sanitation

There are a large number of Governmental organizations, Donor agencies (Bilateral, Multilateral and International Institutions), NGO's, INGO's and local governmental agencies involved in the development of water and sanitation sector. A brief description of the major organizations & agencies involved in the sector is presented here.

2.3.1 Government Sector:-

2.3.2 Ministry of Housing & Physical Planning (MHPP)

MHPP is an apex body which is responsible in formulating plans and policies of the sector. Two major organizations under the MHPP, namely the Department of Water Supply & Sewerage (DWSS) and the Nepal Water Supply Corporation (NWSC) are implementing agencies for the sector development activities.

The central DWSS has an Environmental Sanitation Section headed by a senior divisional engineer and supported by an engineer, sociologist and a public health officer. This section is engaged in developing sanitation indicators and conducting orientation on sanitation to the NGO's at the regional level.

The central DWSS has a training and manpower developing unit called Central Human Resource Development Unit (CHRDU), which is responsible for increasing the capabilities and skills of the staff members, engaged in the areas of sanitation activities through training and orientation programs.

The five regional directorates and 75 district water supply offices are directly responsible for providing and promoting water supply and sanitation services to the communities of Nepal.

The Nepal Water Supply Corporation (NWSC) is a semi autonomous organization with its own legislation, which is responsible for water supply and sewerage in the five municipalities of Kathmandu Valley and 10 other municipalities in the country.

2.3.3 Ministry of Health (MoH)

The MoH is directly concerned with promotion of sanitation as a preventive health measure. Under this ministry, the Department of Health is responsible for the basic and primary health services which include health education and the dissemination of information about clean water, sanitation and environment.

2.3.4 Ministry of Local Development (MLD)

The MLD had in the past (till 1988) executed UNICEF supported community water supply projects in the rural areas, which have now been transferred to the MHPP. However, the Ministry is still concerned with water supply and sanitation activities by providing grants to execute water supply and sanitation projects in different village development committees (VDCs) of the country, by executing the programs through the productive credit for Rural women and by supervising the water supply and sanitation programs under rural development projects with the finance of GTZ, SNV and FINNIDA in various districts.

2.3.5 Ministry of Education (MoE)

The ministry has been contributing to raise the health and sanitation awareness by including Health Education in the Curriculum of the primary, lower secondary and secondary classes.

The secondary Health Education Curriculum contains a section on environmental sanitation which has following topics:

- Air, causes of air pollution.
- Water, sources, means of purifying.
- Dirty water and garbage, disposal systems.
- Latrine, types of latrines.
- Noise pollution

Under the ministry, there is a project named the Basic & Primary Education Project, where there is a component on school construction and rehabilitation. Provision of drinking water taps and institutions latrines in the primary schools is part of the school construction and rehabilitation program.

2.4. Donor Agencies and International NGOs.

2.4.1 Rural Water Supply and Sanitation Fund Board (RWSSFB)-

The RWSSFB has been established by the government formation order to implement the World Bank supported Rural Water Supply and Sanitation Project. The RWSSFB will implement the project activities through support organization (SOs) including the NGOs and the VDCs. Appropriate sanitation facilities will be provided to the rural communities of the project area by providing some amounts as grant to the communities and the grant amount to be managed by the communities as revolving fund to lending money to the needy households for latrine construction. There is institutional latrine construction component for selected schools and health centers with a view to maximize demonstration effects. There will be institutional latrines to be constructed for the scheme in either schools or health posts.

2.4.2 Urban Development through Local Efforts (UDLE).

The UDLE was established in 1987 as joint initiative of the government of Nepal and GTZ (on behalf of the Federal Republic of Germany). The UDLE has been conducting several programs that are related to promoting better sanitation and environment undertaking social infrastructure projects (including public and private latrines, surface water drainage, waste water treatment plants etc.) in the municipalities.

2.4.3 United Nations Children's Fund (UNICEF)

UNICEF has been a long time donor agency in the water and sanitation sector. It has contributed to the sector in the following ways

- Providing financial and technical support to DWSS for operational projects in Eastern and Central Regions.
- Providing: financial support to NGO's particularly NEWAH, NRCS for operational projects.
- Providing DWSS in developing technical documents and publicity materials on water supply and sanitation systems and conducting orientation for NGO's.
- Developing standard training materials for hygiene education.

2.4.4 Asian Development Bank (ADB)

Currently, ADB is the largest donor for the development of this sector. The ADB has provided four loan projects for DWSS to undertake rural water supply and sanitation projects which have contributed to promote community involvement in the projects and to strengthen integration of sanitation and hygiene education with water supply projects.

2.4.5 Rural Water Supply and Sanitation Project (RWSSP) FINNIDA

The RWSSP (FINNIDA) had built 300 institutional toilets of ventilated improved latrines, in schools, health posts and VDC building of project area in 1st phase of the project under DWSS during 1990 - 1995. RWSSP also has been providing training on construction, use and maintenance of latrines.

The Second phase of RWSSP now under MLD from 1996 onward has given more emphasis on construction of household and institutional latrines with some sort of subsidy.

2.4.6 Self Reliant Drinking Water Supply Program (SRDWSP) - HELVETAS

SRDWSP (HELVETAS) started this program since 1992 as pilot program in the western development region. This program is based on the theme that drinking water and sanitation activities are complementary to each other i.e. sanitation activities are integrated with water activities.

2.4.7 World Health Organization(WHO)

WHO was one of the initiators of the International Drinking Water Supply & Sanitation Decade(1981-1990), a broad based international response to the enormous lack of water and sanitation services over most of the world. Since then, the Government of Nepal has given much interest & given emphasis to launch the targets set by the decade with the help of WHO. From that decade onward the momentum was built up for the Water Supply & Sanitation Sector. Government & other donor agencies have provided sufficient budget for hardware construction of water supply schemes in the country, but financing till now is limited for soft ware part, which is an integral part of Water Supply. WHO is providing technical and financial support for the following programs.

a) Health education and hygiene promotion.
b) Public awareness program.
c) Human resource development.
d) Support healthy public policy.
e) Poverty alleviation through health.
f) Monitoring & fighting out breaks of diseases.
g) Promoting & healthy life styles & environments.
h) Water quality improvement.

There are several other INGOs involved in water and sanitation sector in the different districts of the country. They are as follows,

- CARE Nepal,
- Save the children (US),
- United Mission to Nepal (UMN),
- Redd Barna,
- Lutheran world service, and
- others

They have a very limited and localized program and have little sanitation coverage in comparison to above mentioned donor agencies and INGOs'

2.5. Non Governmental Organization (NGOs)

There are number of NGOs involved in water and sanitation. Many of them have small and localized programs. Only two of them have contributing a large coverage in the country, a brief description of which is given below.

2.5.1 Nepal Redcross Society (NRCS):

The Nepal Red Cross Society (NRCS) has been implementing 'Drinking Water and Sanitation Program' (DWSP) in three Terai districts and four hill districts since 1993 with Japanese Red Cross Society assistance. The main aim of the WSP is to improve the quality of life of the people in the rural areas through there components Human Resource Development, Motivation for health and sanitation and Construction of Drinking Water & sanitation facilities. The program seeks to make an impact on health through access to knowledge about hygiene and sanitation (with women involvement), to reduce the incidence of water borne diseases by controlling contamination at source, and promotion of safe handling of water with other aspects like nutrition, food, income generation etc. Stress is laid on achieving community participation widely.

2.5.2 Nepal Water for Heath(NEWAH)

The NEWAH is an important NGO in the field of water and sanitation. It conducts health education training at the local levels, and also undertakes construction of household and school latrines. The NEWAH provides training (3 weeks) to local health motivators, who in turn provide orientation to local people(users) at local level (tapstands).

The NEWAH has helped in constructing over 10,000 latrines in different parts of the country under various projects during 1988 and 1997. The number of latrine constructed with NEWAH assistance was 5073 during 1995-97 alone.

The NEWAH experiences show that communities have generally shown low level of interest in latrine construction. The Hill communities were found to be more

receptive then Terai communities in this respect. Lack of education and Knowledge have been found to be the important hurdles. Behavioral changes are governed by number of factors such as economic condition and culture. Need of different sets of learning materials, languages and facilitators suiting local conditions was felt needed.

2.6 Private Sector :

Private sector involvement in the development of sanitation sector is observed to be possible only in the form of supply of basic materials suitable for the Construction of Latrines, such as rings, slabs and plan, or as private contractors who could undertake construction contracts.

2.7 Government Policy on subsidy for sanitation :

Provision of sanitary services has in the past been mainly supply driven, with heavy subsidization in construction of latrines. Experience has shown that subsidized technologies imposed on the people without prior consultation are prone to failure or underuse. Studies conducted by different agencies on these subsidized programs indicate that financial resources for the construction of latrines is monopolized by the influential persons and targeted poor households do not get the subsidies. So, the Government policy is to do away with the subsidy for the construction of latrines and the policy is to emphasize motivation, awareness and to rely less on subsidies.

3. Technologies used in urban/ rural (periurban) context.

A type of technology used in urban/ periurban areas depends upon the topography and soil conditions.

In the urban areas of Biratnagar, Janakpur, Nepalgunj, Siddharthanager and other towns where the water table is high, the septic tank is the most suitable technology. The septic tank is expensive and beyond the reach of many low income households, for this class, Raised Double Pit Sulabh Toilet with concrete base or cement cealing of concrete ring joints is also the choice of technology in the urban/ periurban areas.

Similarly, in the urban areas of Dharan, Pokhara, Birganj, Hetauda, Butwal and other towns where the topography or soil condition permits to use a technology choice of Single Pit VIP, Double Pit Composting Sulabh Latrines. Septic Tank System technology is also adopted by the higher income groups in the areas.

In core areas of Kathmandu Valley towns almost all households have connected directly to sewerage system. But in new growth centers, where there is no sewerage system septic tank system are found and some even Sulabh Toilets.

To Cope with the floating population in the Kathmandu city, there are several public toilets functioning.

4. Success stories/ Experiences.

Despite the facts that a lot of efforts has been made to improve the sanitation situation of the country, the coverage on overall sanitation (latrine construction) is limited.

A number of studies on impact of sanitation programs have been conducted by the concerned agencies such as Nepal Red Cross Society(NRCS), Nepal Water for Health (NEWAH) and New Era. Most of the studies indicate that (i) There have been general improvement in personal hygiene, house holds and community sanitation as a result of the programs, (ii) further, the number of latrines constructed has increased, and the latrines have also been used, (iii) a decline in incidence of diarrhoea diseases has also been observed in the project areas, run by these agencies. It is all due to the successful projects launched by these agencies.

One of the successfully executed pilot project under DWSS, during 1982 - 87 was to construct household latrines in the municipal towns of Jankapur, Pokhara, Bhairawa, Birendranagar, Dipayal and Kirtipur. The construction was subsidized. Each selected household was provided with materials worth Rs. 1000 (one fiber glass pan, 3 to 5 bags of cement, 14 to 20 kg of reinforcing rod) to construct a Pour Flush Twin Pit Latrine. The concerned Town Panchayat Board (now Municipality Board)

made recommendation for selection of the households. The idea was to provide subsidizes to low income groups. In reality, the request were endorsed regardless of income status of the applicants. During that period some 3000 household latrines were constructed under the project.

Another success experience was found in a large sanitation program, which was under taken in the communities in the Eastern Region under Eastern Regional Water Supply project during late 1980's under the finance of Overseas Development Agency of UK.

The project was successful in constructing 4948 latrines in communities by 1989, when the project ended. The project made a significant impact in the communities.

5. New approaches/ strategies.

As mentioned in the several impact studies of water projects, the safe water supply alone will not improve the health status of the people. For improving the public health favorable changes in people's hygiene and sanitation behaviors can be achieved by providing appropriate sanitation facilities and carrying out innovative educational and social mobilization strategies. For the identification of the new approaches to sanitation in Nepal Swedish International Development Agency (SIDA) funded pilot project was launched to test how hygiene and sanitation behavioral changes can be achieved through innovative educational and social mobilization strategies. This pilot project was carried out in rural areas of Nepal in the interest of WHO headquarter from Mid December, 1996 to June, 1998 in selected wards of Ishworpur and Sankhu Village Development Committees of Sarlahi and Kavre districts respectievely. The case study of which will be presented in the regional consultation in Pokhara by Chrinjibi Bahadur Thapa, hygiene and sanitation consultant for the said project.

Similarly, another pilot project on community hygiene and sanitation program will be implemented in selected urban areas of Nepal from October 1998 to the end of March 2000.

Findings of these two pilot projects and the outcome of the WHO regional consultation in Pokhara, 17 - 19, November, 1998 will give guidelines to launch new approach to sanitation programs in Nepal.

6. Future plans/ programs to increase the coverage.

The targets were set for the Ninth Year Plan 1997/ 2002 for the development of water supply and sanitation sector with a long term vision of the future planning of 20 years.

In 20 years of time with limited resources following programs are to be launched in the sanitation sector.

- construction of sewerage system with appropriate treatment in most of the populated areas of all urban areas. Similarly, a solid waste management system and appropriate disposal technology is to be developed in all urban areas of the country.

- Appropriate technology Sulabh Household Latrines to be constructed as per the local geographical condition in rural areas of the country to improve the environment.

6.1 Approaches :

- Integrated approach will continue to be the main basis of the water and sanitation program.

- The local government institutions and local communities should give high priority to sanitation and launch health related programs in order to bring about speedy improvement in rural sanitation.

- There should be balance on between hardware & software programs.

- The motivational activities with stress on hygiene improvement and environment sanitation were initially conducted by water and sanitation technicians.

- The training should be provided to the staffs involved in sanitation activities and to the users committee members, motivators and promoters of the sanitation activities.

- There should be adequate number of indicators identifies to measure the development activities in the sanitation sector.

6.2 Targets :

The Ninth Five Year Plan (1997 - 2002) has set high goals for both drinking water and sanitation with regard to drinking water the target laid down is to provide water for all population by the end of 2002. With regard to sanitation the target is 40% of the population (36 % in rural areas and 60 % in urban areas). The targets for sanitation coverage are quite ambitious. Thus implies trouble of sanitation facilities (toilets) within the period of 5 years.

Ninth plan goals for sanitation

Sanitation	Rural	Urban	Total
1. Population by the end of Ninth Plan	20574	3794	24368
2. Proportion of population with access to sanitation by the end of Ninth Plan (in %)	36 %	60%	40%
3. Population will have sanitation facilities by the end of 2002	7406	2276	9747

Source : National Planning Commission, The Ninth Plan 1998.

Using the above targets, the population with sanitation facilities will be 9,747 thousands in the year 2002. (about 7406 thousands in rural areas and about 2276 thousands in urban areas).

6.3 Priority focuses :

a) With new sanitation policy in place the Government of Nepal will give higher priority in its program and accordingly higher budget allocation and give more emphasis to extend sanitation facilities rapidly (increase of latrine coverage from 20 % to 40 % of population over a plan period of 5 years)

b) A number of hardware type programs relating to sanitation will be given priority focuses in this plan period, in areas as mentioned below.

Rural areas

- Programs to make the local people aware about household and environmental sanitation will be undertaken and they will be encouraged to construct low cost latrines and carry out other sanitation improvement activities.

Urban areas

- Programs of construction of sewerage in urban areas/ drainage(storm water)
- Programs for encouraging people to construct household toilets with septic tanks in places where there is no sewerage facilities.
- Programs to prevent people from discharge wastes and sewer into river.

Kathmandu Valley

- Imposing a complete sewer on disposal of wastes in the river, carrying out treatment of sewerage before draining in to river.
- Control of pollution of Bagmati River and Construction of sewerage treatment plants at 7 different places.

c) In additional to these above mentioned hardware type programs the government should give more focus on awareness, communication, training and other related activities.

Since latrines construction is basically a family matter, much will depends on the motivation and resources of individuals families.

Health and hygiene education on expanded scale will be necessary in order to encourage families to construct their own latrines. Communication media have to be widely used for propagating the importance of sanitary habits among the people, the benefits of having toilets, the importance of proper disposal of wastes and the ways in which individuals and communities can contribute to improve the environment and sanitary condition. The media should also stress proper washing of hands, protection of drinking water sources, food and construction of drainage facilities.

Training programs should be conducted to appropriate target groups to enable to link water and sanitation activities with health activities.

WORLD HEALTH ORGANIZATION

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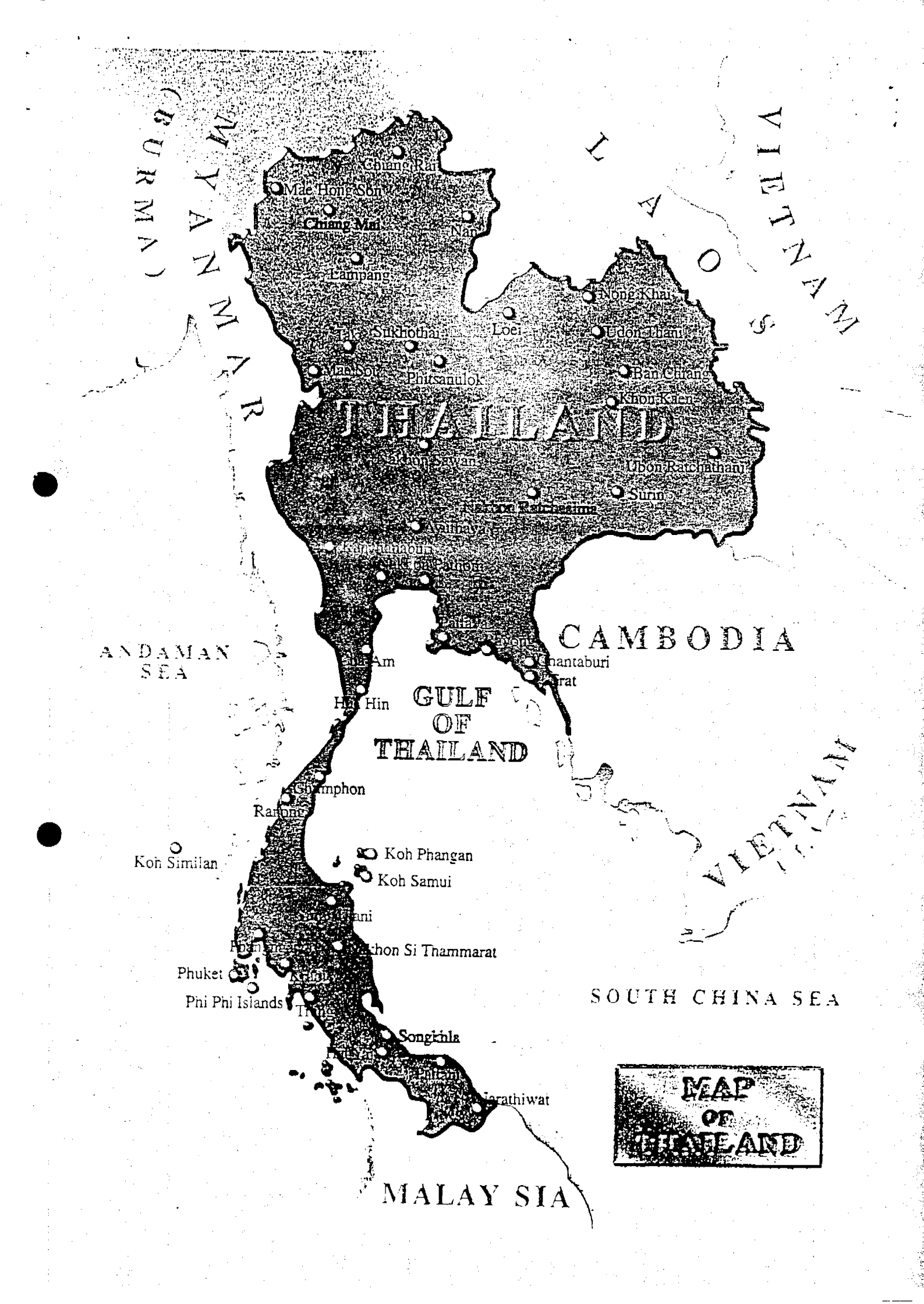
THAILAND – COUNTRY STATUS REPORT


MYANMAR (BURMA)
LAOS
VIETNAM
Chiang Rai
Mae Hong Son
Chiang Mai
Nan
Lampang
Nong Khai
Loei
Sukhothai
Udon Thani
Tak
Mae Sot
Phitsanulok
Ban Chiang
Khon Kaen
THAILAND
Nakhon Sawan
Ubon Ratchathani
Surin
Nakhon Ratchasima
Ayuthaya
Pattaya
CAMBODIA
ANDAMAN SEA
Chantaburi
Hua Hin
GULF OF THAILAND
Chumphon
Ranong
Koh Similan
Koh Phangan
Koh Samui
Nakhon Si Thammarat
Phuket
Phi Phi Islands
Songkhla
Pattani
Narathiwat
MALAY SIA
SOUTH CHINA SEA
MAP OF THAILAND

Contents

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Country Status Paper

1. Overview and Administrative System

Thailand is located in the continental Southeast Asia, just north of the equator, and is part of the Indochinese Peninsular. Its shape is like an ancient axe, covering an area of about 514,000 square kilometers. The border around Thailand is about 5,820 kilometers long , of which 3,205 kilometers is inland border and the other 2,615 kilometers is coastline. Neighboring countries are Myanmar, Laos, Cambodia and Malaysia.

Administrative System. Thailand is a democratic country, having the king as the Head of State, a constitutional monarch under the constitution of the Kingdom of Thailand , B.E. 2538 (1995) as amended B.E. 2540 (1997). Thailand's administrative system, comprises 3 major administrative categories as follows.

1.1 Central Administration consists of 15 ministries , in each ministry, there are several departments or agencies. Totally, there are 176 departments in all ministries.

1.2 Provincial Administration consists of 75 provinces, 774 districts and 81 Sub-districts. The provincial functions mean functions of various ministries as delegated to the provincial level, under the supervision of the provincial governor.

1.3 Local Administration in Thailand, there are 4 types of local administrative bodies namely,

.1 - Provincial Administrative Organizations (75)

.2 - Municipalities (148), Sanitary districts (982)

.3 - Tambon Administrative Organizations (7,255)

1.4 **Local Authorities** as designated by laws i.e. Bangkok Metropolitan Administration (BMA) and Pattaya city

For quick review and understanding in this report

Urban Shall means an area of BMA (1), Pattaya city (1) and Municipalities (148 + 982)

Rural Shall means other areas outside of urban, they are so- called Tambons (7,255) and villages of about 67,500 which located outside urban area.

2. An approach to Sanitation Programme

For the purpose of mutual understanding and clarity concerning role and boundary of responsibility. The definition of following key words in connection with sanitation are found very useful.

Health = A state of complete physical, mental and Social well-being and not merely the absence of disease and infirmity.

Healthiness, (Healthily, Healthy) use mostly for living subject.

2 indicators are considered.

= Sanitation + physical fitness

Healthfulness (Healthfully, Healthful) use mostly for non-living subject.

2 indicators are considered.

= Sanitation + Aesthetic

Sanitation = - Hygienic conditions

- Cleanliness, safety, free from any disease producing agents.
- Measures that leads to a reduction of disease.

Community = A group of people having common interests and communicates each other.

- Type of society.

As mentioned above, the words sanitation has its meaning cover both the activity for human health and environmental health. On the other hand, sanitation is the essential component for health of any living subject, more specific so called "Healthiness" and for non-living subject, so called "Healthfulness".

Environmental sanitation development involves the activity of specifying, surveying , monitoring and controlling those aspects that may impact on individuals, families and communities,and the healthfulness of the environment. In fact, environmental sanitation is explained in terms of disease prevention measure or a measure to reduce the risk of contacting infections diseases. Specific attention is paid to pollution problems, where they impact on the health and quality of life of the general public. It also applies technical knowledge to transfer models and strategies for implementation in urban and rural areas nationwide.

Sanitation program consist of various activities or services which can be divided into 3 categories.

2.1 Basic Sanitation comprises of 5 aspects.

1. - Housing
2. - Drinking water supply
3. - Food practice

4. - Excreta (Disposal)

5. - Public place (Healthfulness)

2. 2 Rural Sanitation 5 more items are added to basic sanitation. Making a total of10 to be considered for implementation in rural area.

6. - Solid waste (Management)

7. - Waste water (Management)

8. - Arthropods and Rats (Control, Surveillance)

9. - Disease and Accident (Prevention, Control)

10. - People participation (Community, Society)

2.3 Urban Sanitation a further 5 items are added. Making a total of 15.

11. - Hazardous waste (Management)

12. - Institution (Sanitation)

13. - Air & water pollution (Control, Surveillance)

14. - Public nuisance (Management)

15. - Laws & Regulation (Enforcement)

3. Current situation and Achievement

3.1 Rural In rural areas by 1997, 98.1 % of households, had sanitary latrines, but proper latrine using behavior has reported very low (21.2 %).

In some area , standard sewage system cannot yet be constructed particularly at mountain communities, water side communities along the river, and poverty-stricken areas. Regarding human excreta disposal. The problems of unhygienic transportation and disposal have been found. Besides, excreta from touring buses and trains has also been found to be unsanitary disposed off. Department of Health has tried to develop appropriate models of sewage system for such areas. There is a shortage of drinking water during the dry season, especially in the northeastern region. From the latest data available in 1997, coverage of 97.6 % for urban and 95.5 % for rural is the achievement. Better rates are to be expected as a result of involvement by public and private sectors.

3.2 Urban Air pollution problems are getting more serious particularly in big cities like Bangkok. The major air pollution problem is caused by dust, carbon-monoxide which are higher than the maximum permissible standard (MPS). Sulfur-dioxide, nitrogen-oxide, and lead are lower than MPS.

Water pollution problem. In considering the overall water quality nationwide, it has been found that out of 311 water quality surveillance stations (covering 70 rivers) the quality of water about 30 % can be used for domestic consumption, about 66 % has continuously deteriorated and unfit for consumption , the rest are not properly identified.

Noise pollution problem. Most problems due to road traffic and machinery operations in industries as well as entertainment establishments (Disco, Karaoke club). Noise level is much higher than PMS (70 decibel A).

Toxic substances pollution. Because of toxic substances for use in various operations have been increasing every year. The use of chemical and toxic substances without safe control measures, as well as poor environmental conditions, would cause ill health to the local population.

3.3 Behavior Behaviors related to health problems are becoming major cause of illness and death such as over nutrition, sexually transmitted diseases (HIV), unsafe conditions of workplace, lack of regular exercise, and high risk behaviors leading to traffic accidents and injuries.

3.4 Physical environment Physical environment problems such as deforestation, poor soil quality, air pollution and polluted water are prevalent.

3.5 Achievement

Percentage of Household Sanitation coverage by type of technology (1997).

Type of Technology	Urban	Rural
1. Housing sanitation	89.2	76.0
2. Drinking water supply	97.6	95.5
3. Food sanitation	74.3	67.4
4. Sanitary latrine	100.0	98.1
5. Household refuse disposal	92.5	90.1
6. Solid waste management	68.4	23.5
7. Waste water management	(Hospital) 85.8	86.6
8. Arthropods and Rats control	79.3	89.5
9. Sanitation in public place	not available	43.4
10. Disease and Accident prevention	100 / 50	93/50
11. Hazardous waste management	92.4	not available
12. Institutional Sanitation	84.7	96.6
13. Water pollution surveillance station (Set target)	96.0	96.0
14. Air pollution surveillance station (Set target)	12.0	not available
15. Laws & Regulation enforcement	100.0	not available
16. Public nuisance surveillance (Complainant)	100.0	not available

Source : Bureau of Environmental Health, DOH/MOPH

4. Policy of the government on sanitation.

Based on a situation analysis and trends assessment in relation to key concept for national development. Human resources are deemed as a determining factor for achievement of overall aspects of development. Furthermore, the government's health policy stated that

"All citizens, should have an opportunity to live a normally happy life, physically, mentally and socially with the following characteristics"

1. Being born and grown up in a well prepared and warm family environment.
2. Capable of adjusting in a rapid changing world and able to maintain good health behavior, living happily with peaceful mind.
3. Living in a well organized community where resources are pooled, responsibilities are shared, in taking care of healthful environment.
4. Maintaining lives and working in a good and safe environment.
5. Living a long life with good quality, with no preventable illness, and dying with dignity.

Since sanitation is a fundamental and key determinant for any human resources development programmes. So it was decided that "The desirable sanitation activity" under 8 the five-year National Development Plan (1997-2001) would be selected for implementation as follows.

1. Decentralize authorities in managing sanitation resources to provincial, municipality, community levels and NGOs.
2. Accelerating the enforcement of essential laws and regulations, i.e, laws on public health.

3. Promote the use of new technology and business management technic to improve sanitation activities.
4. Promote NGOs to get directly involved or become joint venture members in various forms sanitation services with emphasis on quality and appropriate prices.
5. Promote a healthy environment by abaiting pollution problems, encourage providing place for exercise and recreation.
6. Promote the participation of the private sector in sanitation campaign, research, laboratory services, information dissemination, quality accreditation by providing financial support, information and technical documents, while reducing unnecessary control with government regulations.
7. Develop effective technologies and innovative interventions for communicable disease prevention and control, particularly those borne by rodent and arthropod vectors.
8. Develop an appropriate mechanism for promoting career development, boosting morale, motivating sanitation personnel, and devising new methods of work to ensure that human resources for sanitation are utilized as efficiently as possible.
9. Allocate the budget to be managed by communities (villages) and provide them with technologies and other technical assistance to ensure the community participation in self-reliance and sustain-ability.

(Promote development community or society)

5. Contribution to sanitation

Resources are distributed to various departments and agencies implementing sanitation project / activities including those in the government and private sectors.

5.1 By the government sector

1. Ministry of Public Health (MOPH)

   MOPH is the principal agency responsible nationwide for the the promotion, control and coordination of all physical and mental health activities, the well-being of the people, and the provision of health services so that the people will be healthy and live a long life.

2. Government agencies that provided and supported sanitation activities are

   - Bangkok Metropolitan Administration (BMA)
   - Ministry of Interior
   - Ministry of University Affairs
   - Ministry of Defense

3. Government agencies that implemented health related activities in connection with the sanitation, environment, workers, children and women, are following

   - Ministry of Education
   - Ministry of Agriculture and Cooperatives
   - Ministry of Science, Technology and Environment
   - Ministry of Labor and Social Welfare

- Ministry of Industry
- Ministry of Commerce

4. Government agencies that supported efficient implementation of sanitation programmes are
   - The national Economic and Social Development Board (planning & Evaluation support)
   - The Bureau of Budget (financial support)
   - The Civil Service commission (manpower support)
   - Department of Technical and Economic cooperation (for various international assistance)
   - The National Statistical Office (information support)
   - The National Research Council (Research assistance)

5. Financing contribution to sanitation

The government budget , the MOPH receives has significantly increased, in FY 1997, the beginning of the 8th Plan, MOPH budget was 6.96 percent of national budget,(52,000 million baht) over three quarters of such budget has been expanded for rural health activities which have resulted in a better health condition of the people throughout the country. Reflex through the major achievement are as follows.

- Hospital waste water treatment	554	Systems
- Infected solid waste incinerators	632	Units

- Households with adequate and Safe drinking water (5 litres / capita) 95.5 %
- Households with Sanitary Latrines 98.1 %
- Households with Sanitary Solid waste disposal 90.1 %
- Healthy urban communities 47.6 % (845 of 1775)
- Healthy villages 82.8 % (54,832 of 66,249)
- Healthy Tambons 61.2 % (4,392 of 7,180)
- Number of village health Volunteers 665,230 persons

(Source : the Health Resources Survey, MOPH.1 st draft Report, Dec 1997.)

5.2 By private sector (individuals, householders)

So called - Self reliance development. It is the effort and enhancement of people's capacity to provide healthfulness, safety environment and make decision about implementation including health promotion, disease prevention. By using technologies that are appropriate to community's needs and culture. Implementators are village health volunteers or other private sector volunteers who will normally have a linkage with government programmes. There is no official data available at the time being regarding proportion of contribution to sanitation, but it is evident that a vast amount have been contributed by individuals or householders. Since they are

understanding and the situation reveal necessary to develop their own community.

5.3 By Non-Governmental Organizations (NGOs)

There are about 400 health related NGOs throughout the country, of which including foundations and associations. Such agencies are required to get registered with the Ministry of Education and Ministry of Interior so that they will be a "juristic person". However, there are other non-juristic person agencies involved in sanitation activities such as Sanitation Development club, Vector Control Club, Border Village Sanitation group. In general, such NGOs have received international financial support, and donation from within the country and government subsidies. The MOPH has provided about 49.2 million baht to various NGOs in 1996. Such agencies have helped a lot in the national health and environmental development effort.

6. Technology patterns

There are 2 types of applicable technology in the sanitation development.

1. **Basic technology** - Thailand has mostly imported this kind of technology from western countries.
2. **System management technology.** As Thailand has adopted / imported

much of basic technology, its sanitation development system also follows that of western countries. As the government has realized the importance of sanitation development, according to its own geographical and cultural conditions. Both types of technology have been carefully considered and selected for utilization. To ensure that the 8th National Plan (1997-2001) is implemented in the direction aimed at achieving desirable objective, the following strategies and tactics are served as a guideline for the implementation by making their own priority.

1. Increase an awareness on specific issues.
   (Community, Society)
2. Increase an interest and proper understanding.
3. Conduct an evaluation to ensure effective and available information.
4. Perform the trial in order to get feasible strategies.
5. Develop and promote adoption fit for local conditions.
6. Develop and promote coordination network in all levels.
7. Increase the efficiency and coverage by means of publicity, Technical and Legal measures.

7. New approaches / Strategies

Thailand applies various strategies to health care reform to attain the ideal aim of **health for all**. Such strategies have evolved from the global situations and views of international public health experts with the support and encouragement

of the World Health Organization (WHO). **Primary health care** strategy can initially be applied to rural areas and later to urban communities. **Healthy cities** strategy is mainly for urban development. However, many public health experts are of the opinion that both strategies should be used concurrently. Through working with both strategies , much knowledge , experience and wisdom will become readily available. The first wisdom is "equilibrium status". All involve in system should have good balance of integration not separation development. It is an important attribute to ensure continued existence of good balance system, to meet the goal of sustainable development. The second important attribute is an enormous "**social energy**". This attribute is achieved through **social integration** to effectively deal with the economic, physical & mental health, cultural, moral,environmental and political issues and significantly reduce community problems. In general the unsatisfactory situation has improved tremendously and community members find much happiness. Such strategies tend to be used for future development. At present , a new and more versatile strategy is being experimented. It is called "**civil society**". Which has 4 essential aspects:

7.1 Intellectual aspect : Sharing of knowledge through seminars and joint activities. The proper social energy is indicated by the "**joint efforts**". Through joint efforts social members can gain much happiness and that is the attainment of public health.

7.2 Material aspect : Donation of certain supplies and materials such as food, clothes, medicines, residents, etc. to needy people. So much poverty and hardship can be alleviated through donation.

7.3 Social aspect : Social support bring about "**healing energy**". Social support can be given in many forms. Support groups can be formed to help people suffering from cancers, HIV, drug addiction, etc. Sick and week person can be given hope, encouragement and the strength to carry on. Healing energy can be produced through many useful activities , such as health food , fitness exercises, meditation and so on. Social energy helps alleviate poverty, hardship and pollution. It is the energy which creates the ideal health for all.

7.4 Spiritual aspect : Social integration creates happiness, warmth, security and mental well-being all of which greatly benefit to physical health. Civil society brings about this systematic integration. It is a great energy unprecedented in social history, unlike the previous disintegration, for example, each part of bird is unable to fly but when bind them together bird can fly up and away. A bird is able to fly with all of its components, not with any single one of them. Incorporation of intellectual , material, social and spiritual aspects produces "**immense energy**". With such energy, the community can face any difficulties and survive under any conditions. In the end they will find much happiness and prosperity. This is the condition of **health for all** and **all for health**. Sanitation is a fundamental of health, therefore

those sanitation activities would play an important role in order to achieve the said goal.

8. Plan to increase the coverage

Sanitation Development plan have to follow the national Development plan as mentioned before, that is emphasis and strengthen on human capacity in health particularly an influence of civil society , health behaviors , healthful premises and environment as well as efficacy and effectiveness of overall services. An updated technology patterns plus systematic development, both aspects have been formulating continuously to attain better coverage, in all 15 aspects of sanitation activities as mentioned earlier in item 2. Furthermore, an increase understanding and cooperation with certain groups of entrepreneur, who are profit-seeking will be organized simultaneously in order to have much concerned about negative effect to health.

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Annex (add to page 2)

Community is simply defined by 5 characteristic as following :-

1. Having the same objectives or interests.
2. Love, share and care each other.
3. Learning by doing together.
4. Having mental well-being.
5. More natural leaders are discovered.

Bibliography

1. Ministry of Interior, (1995). Information about organizational Environment, Analysis and formulation of plan / strategies (Mimeographed).

2. Ministry of Public Health, Bureau of Health Policy and Plan (1997) Health Statistics, Veterans Press, Bangkok.

3. Ministry of Science, Technology and Environment (1996) Report on Pollution Situations in Thailand, (1995) Integrated promotion tech Co., Bangkok.

4. Department of Health, Bureau of Environmental Health (1997) Annual Report on Sanitation Activities. (Mimeographed)

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

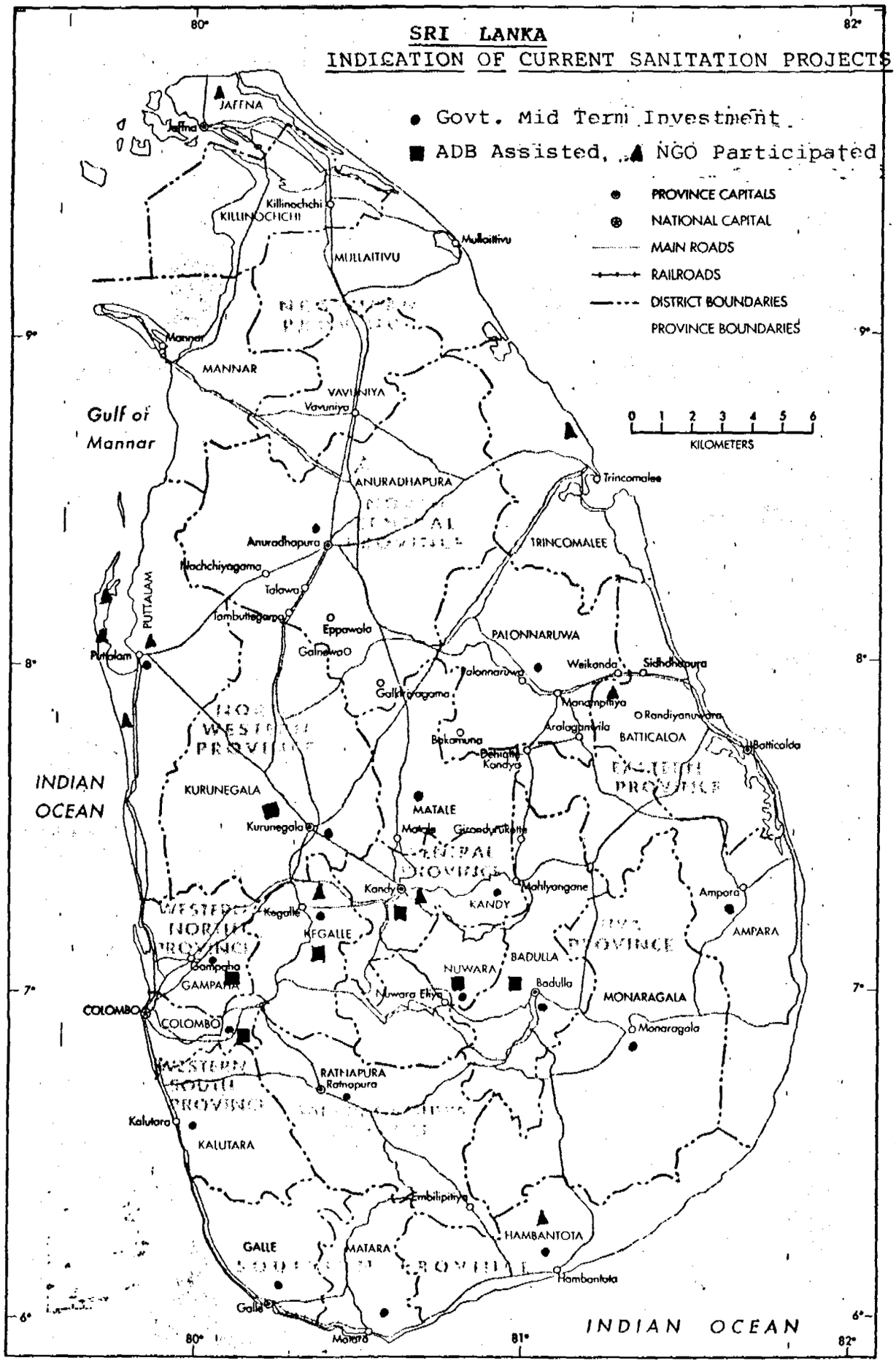
SEA/EH/Meet/6.1.10
07 October 1998

SRI LANKA – COUNTRY STATUS REPORT

COUNTRY STATUS PAPER

SRI LANKA

NEW APPROACH TO SANITATION


SRI LANKA
INDICATION OF CURRENT SANITATION PROJECTS
● Govt. Mid Term Investment
■ ADB Assisted, ▲ NGO Participated
PROVINCE CAPITALS
NATIONAL CAPITAL
MAIN ROADS
RAILROADS
DISTRICT BOUNDARIES
PROVINCE BOUNDARIES
0 1 2 3 4 5 6
KILOMETERS
JAFFNA
Jaffna
Killinochchi
KILLINOCHCHI
Mullaitivu
MULLAITIVU
Mannar
MANNAR
Gulf of Mannar
Vavuniya
ANURADHAPURA
Trincomalee
Anuradhapura
TRINCOMALEE
Nachchiyagama
Talawa
Tambuttegama
Eppawala
PUTTALAM
Puttalam
Galnewa
PALONNARUWA
Polonnaruwa
Weikanda
Siddhapura
Galkiriyagama
Manampitiya
Randiyanuwara
Aralaganwila
BATTICALOA
Batticaloa
Bakamuna
Dehiattakandiya
INDIAN OCEAN
KURUNEGALA
Kurunegala
MATALE
Matale
Gurudeniya
Kandy
KANDY
Mahiyangana
Ampara
AMPARA
Kegalle
KEGALLE
Gampaha
GAMPAHA
NUWARA
BADULLA
Badulla
Nuwara Eliya
MONARAGALA
Monaragala
COLOMBO
COLOMBO
RATNAPURA
Ratnapura
Kalutara
KALUTARA
Embilipitiya
HAMBANTOTA
Hambantota
GALLE
MATARA
Galle
Matara
INDIAN OCEAN
80°
81°
82°
9°
8°
7°
6°

COUNTRY STATUS PAPER - SRI LANKA

REGIONAL CONSULTATION ON NEW APPROACH TO SANITATION

1. Present situation in urban and Rural sanitation

Proper access to sanitation is a basic human right. In Sri Lanka the provision of sanitation is a responsibility mainly of the state agencies, local authorities, NGOO, and the general public. Sri Lanka has the unique history of focusing on sanitation as far back as 1858. enforcing legal enactment in relation to sanitation by way of control of nuisances.

Sanitation popularly defined as all conditions that affect health specifically in relation to the disposal of human waste, refuse disposal, control of water supplies etc. Insanitary and inadequate disposal of human waste leads to the contamination of ground and of sources of water. Often it provides opportunities to carry infection through various means

Water supplies are equally desirable in securing sanitation. Efficient water supply schemes ensuring safety of water and suitable supplies depending on the requirement such as large system for big cities and similar facilities depending on the extent are desirable in securing sanitation. In rural areas the common dug well system can be ensured through proper siting and through protective measures such as constructing protected wells and ensuring protection and contamination.

Safe disposal of refuse is also of importance to sanitation. Hence proper disposal in every place in its capacity is vital to uphold sanitation. Awareness is of vital importance in all these activities. Hence all these groups of communities has to be addressed using modern ways and techniques of health education.

Due to civil disturbances prevailing in the North and some part of the Eastern region of Sri Lanka serious lapses on assuring sanitation is experienced. Control of communicable diseases, immunisation, and all other sanitation activities face severe problems and had drawn the concern of the government and other relevant organisations like WHO, UNICEF, NGOO. However possible activities are carried out depending on the situations by government and NGOO. Collection of country wise data too is handicapped , hence upto date data on country basis is not available. The available sanitation and water supply coverage figures for 1993 excluding the North is given in the annexure. It may be mentioned that these figures should show some remarkable improvements by now due to efforts taken by the Govt. and other organisations.

The present administrative set up comprises Central Government, 14 municipal councils, 37 Urban councils, and 257 divisional councils known as Pradeshiya Sabhas distributed through out the country. The demand for sanitation depending on the type of unit is satisfactorily met at some places. For instance larger scale sewerage treatment plants, and water supply scheme have been set up in bigger municipal areas while similar type facilities are provided depending on the

extent of the relevant authorities in such areas. In municipal areas NGOO participation is limited to some slum areas in putting up water seal toilets and extending pipe borne water services.

An urban council smaller in every capacity holds the administrative responsibility similar to a municipal council. Sanitation demand in these areas are similarly dealt. The trend for migration into towns has given rise to greater demand for provision of sanitation. Toilets facilities with adequate and safe water supply for the floating population, similar amenities for new dwellings and buildings coming up in these areas have to be looked into by the urban council. In some urban council areas smaller sewerage treatment plants are in use, while the common mode of disposal of human waste is water-seal septic tank type of toilets. NGO participation in sanitation, and implementation of programmes such as allocation of subsidy for latrine construction sanitation projects by the central Government have upgraded the standard of sanitation in these areas. The peripheral public health staff play a prominent role in these activities. Some of these existing strategies on sanitation in urban areas have to cater ever increasing demand continuously and hence seems unsuccessful and creating unexpected situations likely to pose public health problems due to inadequate final disposal of human waste.

2. The divisional administrative bodies known as Pradeshya Sabha is the fundamental administrative body found in Sri Lanka. Altogether there are 257 of this type of councils directly involved in rural administration. Similar to MCs and UCs a foremost responsibility of a P.S is ensuring and promotion of sanitation. The peripheral health staff organise and implement various health activities. Sanitation is well attended, by way of assuring safe drinking water, provision of ample supply of water for the commonly used water-seal type of toilets. These activities are further enhanced with allocation of subsidies by government sector. Very often new homes are provided with adequate toilet facilities on their own, while pit type of toilets of by gone days are gradually replaced with popular water-seal type ones. NGO participation in these rural areas covers a wider rage of sanitation related activities. Financial assistance, material distribution, affording skilled manual support, together with creation of awareness among deserving householders by NGOO and satisfactory communication system with high literacy rate prevailing in the country are some contributing factors. However in remote rural areas there is much to be done in this field due to poverty scarcity of water and lack awareness.

In some urban areas programmes had been carried out to upgrade their existing systems both sanitation and water. The Colombo city sewerage system is under taken for upgrading. Common toilets units with septic tanks and soakage pits have been constructed by the respective local authorities often with government assistance. Medium scale water supply scheme in many UC areas and laboratory facilities for water analysis in several places have also being provided by the National Water Supply and Drainage Board. In rural areas many householders have constructed water seal toilets. Poor people usually obtain the subsidy provided by the Government. Small pipe borne water supply units in some places, and tube wells in selected places are also provided in rural areas.

2. Present Policy of the Government on Sanitation

The policy of the Government is to secure sanitation equally to its citizens.

2.1 Present contribution to sanitation by government Sector

The Ministry of Health at National level, and separate Ministries of Health in the provinces, together with 23 deputy provincial directors in districts, further sub-divided into 263 divisional directors of health services, thus forming the Health care delivery including sanitation, as accepted assistance is offered with least and deserving restrictions. In many instances provision of funds, and mandatory issues are also considered for the promotion and secure of sanitation.

2.2 Present contribution to sanitation by private sector

Sri Lanka has a literacy rate of over 85% and the need for use of toilets has been understood by the people as a safe disposal of human waste in order to prevent various bowel diseases and helminth borne diseases.

In this regard the individual household provides their own water-seal latrines. In affluent homes there are sometimes a number of units with properly constructed septic tanks or soakage pits. Similarly private institutions attend in providing sanitation depending on the extent of their requirements in industrial and trade zones.

2.3 Present contribution to sanitation by NGOO

Various NGOO assist the sanitation programmes mostly in the rural sector. There are a large number of international and local NGOO that are involved in developing the sanitation of rural areas and provision of potable water. In these programme community participation and volunteer involvement is more apparent . Creating awareness, financial and material assistance, labour support in some places preferably to poor house holders in securing sanitary toilets and assistance to build protected wells and suitable water supply scheme have also being successfully implemented in selected project areas. Individuals, families and communities specially in rural sector assume responsibility for their own health and welfare and the capacity to their own and their community's development through these strategies have addressed the needs for increasing sanitation requirements.

2.4 The Government Policy on subsidy

Government policy is to provide subsidies mainly for the rural masses, to put up their sanitation facilities. some poor individuals cannot afford the total cost of putting up a latrine and hence it is subsidised.

Selection for offering assistance under subsidy is decided on the householder's
income . the criteria and norm laid down by the government to effect this activity is " permanent residence whose monthly income is below Rs. 1000".

In towns and cities where people gather in large numbers on business and employment the local authorities provide toilet facilities and where large gatherings congregate for festivals or pilgrimages the local authorities provide either permanent or temporary sanitary facilities.

The Government of Sri Lanka through the Ministry of Health allocates funds to provincial ministries annually on sanitation related activities, and government direction in obtaining additional assistance from donor agencies and funding agencies indicates the government commitment in securing overburdened public health services.

3) **Technologies used in urban areas**

Sewerage disposal systems are used for the city population and also for institutions like hospitals, collages, Universities, Factories, industrial estates etc. while in some places water-seal type toilets still are in use. In case of water supply pipe borne water is common and in few places other sources are used.

3.1 **Technologies used in Rural areas**

Water-seal type of latrines in the rural areas are accepted and hence does not cause any problems in relation to final disposal, while considerable amount of pit latrines still exist in rural areas, though it is not accepted and likely to cause sanitation problems. Partially protected dug well is common for drinking water, while in some places other sources are used. Small scale water supply units in few places and tube wells in selected places are also used.

4. **Success stories/experiences**

About two decades back most of the cities and even sub- urban areas had bucket type of latrines where final disposal had to be done by the local authorities, Excreta had to be collected from individual households and finally disposed in trenching ground. This unhygienic system is now totally discarded.

Same in the case of rural areas where there were the pit type of latrines which too are replaced by the water-seal type. This is a great success story for Sri Lanka.

Due to this factor helminthic infections and incidence of bowel diseases have come down significantly.

Human choice in sanitation in the use of individual toilets rather than common or community types. In localities with common toilets proper maintenance is not adhered. Some does not use toilets thus spoiling the environment. The recent settlement projects in estate sector facilitating individual houses and individual toilets, may considered as another success story in relation to sanitation.

5. New approaches/strategies

Due to the dramatic phases of development that are taking place in the urban and sub-urban sector and restriction on space in relation to water- sources various new approaches have to be appointed.

In the semi-urban and rural sectors due to presence of underground wells as the source of water extra- precautions have to be taken in providing soakage pits or septic tanks for the water seal latrine.

However the National Water Supply and Drainage Board under the Central Government and other Water Supply Projects under the local government have minimised these problems by providing pipe borne water supplies and thus minimising the need for underground wells.

6. Future plans/programmes to increase the coverage

6.1 Approaches

To improve the present services and to increase the coverage by application of scientific and modern methods of providing sanitation facilities, sewerage systems and their sustenance, also by providing adequate modern system to meet the increasing demand, by implementing more projects in deserving areas by obtaining additional funds , by utilising the services of trained manpower on broader basis, by enforcing law in relation to sanitation and by sharing the encouraging experiences of other countries.

6. Targets

Provide 100% sanitation facilities for the people of Sri Lanka by Year 2005

6.3 Priority Focus

Provision of sanitary facilities as a priority issue under National Health Plan.

1. Proper implementation of sanitation programmes to cover children below 5 years who are mostly vulnerable to in sanitary conditions.

2. Financial assistance through subsidy scheme of government mid-term investment programme covering up all possible divisions in the country to step up latrine construction.

3. Acceleration of the project activities with assistance from funding agencies such as ADB

4. Utilisation of facilities to newly establish centres for training of public health manpower for establishing the desired quality of trained personnel.

5. Action programmes on sanitation focusing slum, poor and remote areas.

6. Provision of infrastructure facilities for implementation and maintenance of these activities.

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WATER SUPPLY AND SANITATION RELATED INFORMATION 1993

NATIONAL LEVEL (EXCEPT NORTHERN PROVINCE AND IMPOSSIBLE AREAS OF EASTERN PROVINCE)

ADEQUATE SANITATION COVERAGE

Province/District (Excluding North)	Urban		Rural		Total	
	Population Served	%	Population Served	%	Population Served	%
National Level	4362816	80	8496936	70	12859752	60

SAFE WATER SUPPLY COVERAGE

Province/District (Excluding North)	Urban		Rural		Total	
	Population Served	%	Population Served	%	Population Served	%
National Level	4753632	89	7183088	60	11936720	60

ACCESS TO WATER BY TYPE OF SOURCES

Type of source	In Use
No. of protected dug wells	587499
No. of unprotected dug wells	549000
No. of tube wells	17852
No. of pipe borne water supply systems treated	217
No. of pipe borne water systems untreated	145
No. of traditional sources	30877

SANITATION COVERAGE - HOUSES

	Having Latrines		No Latrines	
	No.	%	No.	%
No. of Housing Units	1986060	75%	654190	25%
Population	8309847	63%	4880387	37%

SANITATION COVERAGE BY TYPE OF LATRINES - HOUSES

	Water Seal	%	Bucket	%	Pit	%
No. of Housing Units	1768967	67%	30311	2%	840972	32%
Population	6205892	74%	99170	2%	2004785	24%

CATEGORIES OF HOUSING UNITS WITHOUT INDIVIDUAL FACILITIES - HOUSES

	Householders		Others	
	No.	%	No.	%
No. of Housing Units	584872	89%	69318	11%
Population	4499786	92%	380601	8%

SANITATION COVERAGE - IND./COM. PREMISES

	Having Latrines		No Latrines	
	No.	%	No.	%
No. of Ind./Com. Premises	36167	73%	13216	27%
Population	389388	81%	90717	19%

SANITATION COVERAGE BY TYPE OF LATRINES - IND./COM. PREMISES

	Water Seal	%	Bucket	%	Pit	%
No. of Ind./Com. Premises	34634	91%	158	0%	3296	9%
Population	332422	96%	165	0%	13341	4%

COUNTRY REPORT

(Presented at the Regional Consultation on
New Approach to Sanitation : Pokhara, Nepal : 17-19 Nov. '98)

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SANITATION PROGRAMME IN BANGLADESH

1. General :

Bangladesh covers an area of 147,570 km^2. The country is divided into 64 districts, 490 thanas and 4,451 unions and there are 68,000 villages. The total population is about 122 million of which about 22% live in urban areas. The GNP per capita is US$ 230.

The adult (15 years and above) literacy rate is 56% for men and 35% women. The average life expectancy in Bangladesh in 1995 was 58.0 years for women and 58.9 years for men..

Infant mortality rate is 67 per 1000 and under five mortality rate is 121 per 1000. Diarrhoea claims 30% of the death rate.

In 1991-92, hardcore poverty (defined as less than 1805 KCal consumption per day) in rural and urban areas was 28% and 26% respectively.

2. Institutional Aspects :

The Department of Public Health Engineering (DPHE) is a national agency working under the Ministry of LGRD&C for the water supply & sanitation sector . Its mandates are to provide safe water supply, household and environmental sanitation facilities for the whole country except Dhaka & Chittagong cities. DPHE formulates polices for the sector, sets standards for different component of the sector, trains sector personnel and facilitates different allies including NGOs and private enterprises in contributing to water supply and sanitation.

There are other agencies also working in the sector. They are Dhaka & Chittagong Water & Sewerage Authority (WASAs) working in respective cities only. City Corporations & Pourashavas are also participating in the sector.

3. Sanitation Scenario :

Rural Sanitation : Sanitation program in rural areas started back in 1962 for demonstration of low cost sanitary latrines for the population. After independence in 1971, a program for promotion, production and sale of low cost water seal latrine was launched with UNICEF & WHO assistance. The program started as Village Sanitation Project Phase -I in 1974 and continued up to 1982. During the 1st phase 1,35,000 nos. latrine were produced and sold.

The **second phase** of village sanitation program then started in 1982 and completed in 1985. In this phase a target of **2,25,000** latrine was achieved .

During this period the program activities created awareness and increased the demand for hygienic latrine. The production-sale-demonstration centers were limited to 460 Thana Centers. The coverage at the end of 1985 could not exceed 3% due to limited service delivery.

In the 3rd phase an increased target of about 20,10,000 sets of latrines were set during 1985-96. The production cum sale centers were extended beyond thana to 540 unions totalling 1000 productions centers to meet the increased demand and promote further through demonstration in remote areas. All the above programme were implemented under UNICEF assistance. At present a project in the name of " **Grameen Sanitation Programme** " is under implementation. The project period is 1996 to 2001. The project will produce and sale 18,00,000 latrine sets among the users.

Due to wide spread demonstration, production and sale of latrines from DPHE production centers over the years and promotion of sanitation through hygiene education the demand for sanitary latrines increased. Through **Social Mobilization** and **Integrated Approach** (I A) to water, sanitation and hygiene a favourable situation has been created for accelerated sanitation program. There are now roughly over 7000 private and NGO production cum selling centers producing DPHE type-water seal latrines. Politicians are now gradually becoming aware of the importance of sanitation and are urging people to improve their sanitation & personal hygiene practices.

The achievements of coverage under sanitation with time is shown below :

Coverage under Sanitation

Coverage, %					
1980		1990		1997	
Rural	Urban	Rural	Urban	Rural	Urban
1	22	6	38	16 36*	40

* includes homemade/do-it-yourself pit latrines

The Social Mobilization campaign involved political and social leaders, government officials, school teachers and students, local governments, NGOs and private sectors and promoted demand which in turn developed private sectors. To meet the demand and to suit the financial capacity of the poor people, pit latrines were built with materials readily available in the households.

The Integrated Approach promoted water supply, sanitation and hygiene education in a package programme to achieve desired benefits in one hand and ensured compulsory participation of the beneficiaries on the other. As the compulsion induced makeshift improvement in sanitation and is of temporary value, the I A investment programme was dropped but approach is considered for developmental improvement in the sector.

Urban Sanitation : As of 1992 urban sanitation in district towns is characterised by on site sanitation system. The population in the core areas of the towns generally have septic tanks which serve about 22% of the district towns population. Sanitary pit latrine cover 16%.

Sanitation condition in thana centers is very poor. About 22% of thana population has access to sanitary facilities of which 16% by pit latrine and the rest 6% septic tanks.

Dhaka city is serving 18% of its population by water borne sewerage system. About 40% has septic tanks, 15% sanitary pit latrines and the remaining resort to unsanitary latrines and open defecation.

As long as urban sanitation is concerned, private sector contribution is substantial. A study reveals that 72% of urban households, have constructed their latrine themselves. During third FYP (1985-90) public sector came up to invest in sanitation sector when slum settlement and floating people migrated in urban towns aggravated the situation. A low cost sanitation project was first launched. During this plan period sanitation program has begun to be an integral part of urban water supply projects. A total of about 10,000 latrine has been constructed in the urban towns by public sector initiatives. The public sector investment of sanitation is only 15% against 85% for water supply.

4. Technological Options :

In view of the socio-eco-religious-cultural and physical factors, water seal latrine has been identified to be the appropriate sanitation technological option in Bangladesh.

For the rural poor single pit water seal latrine and for the urban twin pit water seal latrine are being promoted. Septic tanks are built at the individual's choice.

In rural areas, depending on the soil conditions 1 to 5 rings for lining of the pit with a water seal slab are sold.

Other low cost options like VIP and Sanplat also exist in limited scale. Some times offset pit is preferred to direct pit.

To follow the sanitation ladder of incremental improvements, home-made/do-it-yourself latrine is widely promoted. Increased demand of water seal latrines has been recognised recently.

5. Policies and Strategies :

Rural Sanitation :

It is logical that use of home-made latrine, in other words defecating at a defined place is better than indiscriminate open defecation but in no way it can be characterised as sanitary or hygienic. However home-made latrine may be advocated for the time to initiate behavioural change among the people. Incremental upgradation was recommended for success in the programme.

DPHE introduced ferro-cement slab to reduce production cost and subsidized price, yet service coverage of hygienic latrine could not reach the desired level in the vicious cycle of poverty and illiteracy.

The beneficiaries complained about the inconveniences of carrying the product from thana centers to their homesteads. The Program then expanded to 540 union centers in order to provide service delivery closer to the community but the service coverage could not be reached even more then 6% by the end of 1990.

Studies on KAP indicated that in addition to the inaffordibility of the majority of people, the sanitation coverage is very much related to attitude, practice and behaviour. As such the social mobilization for sanitation was undertaken to create awareness and demand and to achieve desired benefits I A was continued. For effective participation of the community in the programmes, the subsidy is being phased out gradually.

To accelerate sanitation coverage it was obligatory to maintain two dimensional approach of sanitation promotion through social mobilization and increased delivery channel of sanitary latrine both through public & private sectors.

Urban Sanitation :

It has been observed that a considerable portion of the community can not afford the cost of twin pit latrine and as such the coverage did not rise upto desired level. Introduction of down payment or credit system improved the situation.

For Dhaka & Chittagong cities water borne sewerage system may be extended and introduced in the newly developed part of the cities.

In order to improve the environmental sanitation in urban areas, sanitation in high risk communities like slum is being addressed adequately.

6. Conclusion :

In Bangladesh although the coverage in water sector has been achieved substantially (97%) yet due to poor sanitation coverage in the country, the overall environmental sanitation condition is not upto the mark. Government is providing more efforts to improve the sanitation coverage by involving community through effective SOCIAL MOBILIZATION PROGRAMME and expected to achieve the target of 100% by the year 2010.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/6.2.1
07 October **1998**

BANGLADESH – CASE STUDY

WATER AND SANITATION PROGRAM OF GRAMEEN BANK

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WATER AND SANITATION PROGRAM OF GRAMEEN BANK

It has long been recognised that if we wish to build a nation free of disease and ill-health, we must empower our people with knowledge. We must educate families on best health practices, so that they can prevent diseases. We also need to educate communities about what to do when diseases strike. This is where the power of knowledge plays a decisive role, by empowering families with the knowledge they need to ensure survival and the healthy growth of their children.

Although Bangladesh has made tremendous strides in maternal and child survival and development over the past decade, there are still major gaps. Child immunization has jumped from mere two percent in 1985 to over 80 percent today. Safe water supply is now almost universal, but only 45 per cent households have hygienic sanitation.

Twenty thousand metric tons of fresh human excreta are deposited every day on the public lands and surface water sources due to open defecation. As a result **110,000**** of our children under the age of five die from diarrhoeal diseases each year. Insanitary environment and poor hygiene practices transmit diarrhoeal diseases. This is unacceptable. Why our children have to die ? These children's lives can be saved if all of our people do not defecate in the open and keep the environment and themselves clean.

To empower our rural people with proper knowledge of sanitation, hygiene and other health issues Grameen Bank started its social developement activities side by side its credit program. Grameen Bank is a specialized financial institution which provides group based credit to the landless and assetless poor. As of July 1998 Grameen Bank has 2.35 million members of which 94% are women. It is serving through 1116 Branch offices covering more than 50% villages all over the country. Currently it disburses 30-40 million US $ a month through a variety of loans. The Grameen Bank loans are completely free from collateral.

**** New direction in sanitation, and water supply in Bangladesh-UNICEF 1997.***

The loanees of Grameen Bank are permitted to utilize their loan in any kind of economic activity. The basic characteristics of Grameen Bank is that here the borrowers doesn't need to come to the Bank, rather the Bank goes to the doorsteps of the borrowers. The main objective of the Bank is to make available banking services to the landless poor of the villages and bring positive changes in their life style and in the socio-economic conditions. The loanees of Grameen Bank repay their loans in regular weekly installments.

Every man has the right to live with dignity. To live with dignity he needs food, cloths, housing, health and education. In a developing country like us, these five basic needs are out of the reach of the common people. It's true that to live with human dignity one needs money. But all of our problems could not be solved with money. Besides money we need awareness for solving them. That's why Grameen Bank took social development program to empower rural people with proper knowledge of health, hygiene and other socio-economic issues.

In 1980 the sanitation coverage in our country was only 1% and at that time promotional intervention on water and sanitation sector was not so satisfactory. Grameen Bank started its social development program activities right from then. GB's social development activities include subjects like women's participation and empowerment, leadership development, Group solidarity, awareness on legal rights, health, nutrition, water and sanitation, family planning, etc.

For the improvement of water and sanitation status of the rural poor GB activities include:

1. Implementation of the 16 decisions.

2. Installation of tube-wells with the assistance of UNICEF and the DPHE and credit program for supply of safe water.

3. House loan program with compulsory sanitary latrine.

4. Credit program for sanitary latrine.

5. Arrange various types of workshops for the members.

6. Services delivery.

7. Motivation through Center meeting and regular field visit.

8. Arsenic mitigation program.

1. <u>Implementation of the 16 decision</u> :

Grameen Bank arranges various types of workshops for the borrowers. In these workshops informal discussion between Bank workers and women loanees are held. At the end of these workshops, the participants formulate a set of decisions to be implemented on their return to the respective centers. In March 1984, a national workshop took place, which was an historic occasion in the Bank's development. The 100 women Center Chiefs participating in this workshop agreed upon 16 decisions, which they committed themselves and the general membership of Grameen Bank to implement. This 16 decisions have become the social development constitution of Grameen Bank. The decisions are as follows.

1. We shall follow and advance the four principles of Grameen Bank -- - discipline, unity, courage and hard work -- in all walks of our lives.

2. Prosperity we shall bring to our families.

3. We shall not live in dilapidated houses. We shall repair our houses and work towards constructing new houses at the earliest.

4. We shall grow vegetables all the year round. we shall eat plenty of them and sell the surplus.

9. During the plantation seasons, we shall plant as many seedlings as possible.

6. We shall plan to keep our families small. we shall minimize our expenditures. we shall look after our health.

7. We shall educate our children and ensure that they can earn to pay for their education.

8. We shall always keep our children and the environment clean.

9. We shall build and use pit-latrines.

10. We shall drink water from tube-wells. If it is not available, we shall boil water or use alum.

11. We shall not take any dowry at our sons' weddings, neither shall we give any dowry at our daughters' wedding. We shall keep the Center free from the curse of dowry. We shall not practice child marriage.

12. We shall not inflict any injustice on anyone, neither shall we allow anyone to do so.

13. We shall collectively undertake bigger investments for higher incomes.

14. We shall always be ready to help each other. If anyone is in difficulty, we shall all help him or her.

15. If we come to know of any breach of discipline in any Center, we shall all go there and help restore discipline.

16. We shall introduce discipline in all our Centers. We shall take part in all social activities collectively.

This decisions can be used as a monitoring and evaluation tool to assess the impact of Grameen Bank's work. Here we can see that the decisions number 8,9 and 10 are on sanitation.

2. <u>Installation of tube-wells and tube-well loan program</u> :

Bangladesh is blessed with heavy annual rainfall in the monsoon. There are plenty of surface water but all are polluted. So from last three decades ground water has become the major source of fresh water supply in our country. To prevent the borrowers from drinking polluted surface water, Grameen Bank started fresh water supply program to our members in a very small scale with the assistance of UNICEF and Department of Public Health of the Government of Bangladesh in mid eighties by setting up hand tube-well sets. But growing demands for tube-wells could not be met by this program. So in 1990 Grameen Bank started a separate credit program for setting up tubewells for fresh water supply.

At the initial stage a Grameen Bank member can take Tk.3,000 (Us $ 65) as tubewell loan side by side the other loan. It is a two year term loan with 1% installment per week. Now the loan has been increased up to Tk. 10,000 depending upon the actual cost of setting a tubewell. We have distributed 0.415 million tubewells to our members up to July 1998.

3. House loan program with compulsory sanitary latrine :

Loans for house are a part of the Banks' social development program as they are part of an economic one. As the Banks' credit experience and self-reliance grew larger loans over longer periods became possible for individual loanees. Housing loans identified before as a major need were seen as instrumental in improving the living standard of the landless. From the view point of health and stability the situation of women and children in particular could be ancliorated. Three hundred and ninty dollars worth of housing (i,e 18,000 taka initially, now increased to 25,000 Taka) means people won't have to repair their houses every year, means people stay dry in the rainy season, means a place to store grain and tools which maximize the carrying out of productive activities and the potential for earning income by the year round.

In the construction of the houses Grameen Bank has certain minimum requirements in terms of construction materials and size. Part of each house loan must be used to purchase four concrete pillars, a sanitary latrine and corrugated iron roofing sheets. The pillars and latrine components are supplied through the Banks' House Building Materials Project at cost price and are often stocked at the Branch Offices ready to be delivered to loanees. As of July`98 the number of house loans distributed by the Bank is about 4 million with a sanitary latrine.

4. Credit program for sanitary latrine:

Instead of compulsory sanitary latrine with house loan, GB has a separate credit program for sanitary latrine. The borrowers who have no sanitary latrine can take TK 1000/= as credit for setting up a sanitary latrine with minimum 5 rings and a slab. It is a two year term loan with a very low rate of interest, 8% per year. As of July 1998 GB has distributed 0.1 million sanitary latrine loans so far.

5. Arrange workshop for the members :

As explained earlier, Grameen Bank arrange various types of workshops for the borrowers. Generally most of the workshops are arranged at the branch level. Many of the ideas in these workshops are suggested by bank staffs themselves based on the kinds of social, technical and economic issues faced by the members of that particular area. Usually 25-40 borrowers take part in these workshops. Duration of these workshops varies from 1-7 days. Now a package of 10 different workshop focused on the loanees takes place at the branch level. They are as follows :

1. 7 days female Center leaders workshop.
2. 1 day follow-up workshop of the 7 days Center leader workshop.
3. 1 day female workshop.
4. 1 day family workshop.
5. 2 days maternal workshop.
6. 3 days health nutrition and dietary promotion workshop.
7. 3 days water and sanitation workshop and promotion of ORS.
8. 1 day sanitary workshop for the children of borrowers and local people.
9. 3 days workshop on legal literacy and violence.
10. 7 days mother and girl child workshop.

The 16 decisions of Grameen Bank is generally discussed in all these workshos. About 2700 different types of workshops are organized by 1116 Branches on an average round the year. In all these workshops about 65000 borrowers(94% are women), their children and their family members gather knowledge about sanitation, pure drinking water, health and many other issues.

Here, for example, the agenda of 3 days workshop on water and sanitation and promotion of ORS is given below.

Water and sanitation workshop.

1.0 Objectives of the workshop.

2.0 Necessity of using pure water in all purposes.

3.0 Various methods of water purification.

4.0 The alum, and its use for purification.

5.0 Different sources of pure water.

6.0 Maintenance and repairing of hand tube-well.

7.0 Water borne diseases, process of their spreading, their preventive and curative measures.

8.0 Importance and use of pure water in cooking.

9.0 The idea of sanitary latrine.

10.0 Hygienic sanitation and sanitary latrine - importance and use.

11.0 Diarrhoea - symptoms, causes, fatality, preventive and curative measures.

12.0 Primary treatment, ORS preparation.

13.0 Cleanliness, healthy environment.

6. Services delivery :

Every year during the monsoon months from May to September, all the rivers of the country swell high with heavy rainfall. As a result normally one third of the country is flooded. And when swollen water ways rise too high, as in 1988 and recently in 1998 more than 60% of the country is flooded.

During flood time maximum hand tube-wells are submerged with water. Scarce of pure drinking water causes rapid spread of diarrhoea and other water borne diseases. To save borrowers from this danger Grameen Bank distributes

Alum among the members under social development program. Till now 0.6 million packets of alum has been distributed under this program .

After recession of flood water our field workers also help the borrowers to disinfect their tube-wells properly.

7. <u>Motivation through Center meeting and field visit</u> :

More often villagers do not understand the link between excreta bacteria and disease. To motivate these people for establishing hygienic latrine all these things must be clearly explained to them. GB has 65000 Centers all over the country. In each Center 30 to 40 borrowers meet (generally women) every week. GB Center Managers initiate this meeting who usually discuss various issues including hygienic sanitary practices with more emphasis. Besides Center meetings Center Manager and other field staffs of GB often go to visit the houses of the borrowers. During these visits they also see the condition of sanitation of that particular family and if they find that the situation is worse enough, they try to motivate for change in their behavior.

8. <u>Arsenic mitigation program</u>:

Arsenic contamination of ground water has become a major concern of our country in recent years. Arsenic exists in nature in many different chemical forms. But ground water, the major source of drinking water in our country, has been found polluted with high level of Arsenic contamination. According to WHO guideline the maximum acceptable level of Arsenic in drinking water is 0.05mg/L. Recent studies reveal that out of 120 million people of our country, 65 million are at risk of Arsenic poisoning, as Arsenic level in ground water is more than 0.05mg/L. So to help the rural people of our country in mitigating this great problem GB started testing Arsenic in ground water using test kits. The main objectives of our program are:

1.0 Create awareness among the borrowers and the local people about the dangerous effect of Arsenic intake.
2.0 Detect the Arsenic contaminated tube-wells of the borrowers and of the local people using field test kits.
3.0 Motivate people to collect water from possible alternative sources for drinking water and cooking purposes.

In October 1997 GB started its Arsenic mitigation program with the assistance of UNICEF and the Department of Public Health Engineering. We trained 50 of our field staffs in using test kits. Up to August`98 our trained field staffs tested 2781 tube-wells out of which 966 are found contaminated with high level of Arsenic, which is 35% of the total.

Impact of GB intervention in water and sanitation:

In 1995 a study was conducted by Dr. Nasreen khandakar, Associate Professor, Dhaka University named, "Impact of the Sixteen Decisions of Grameen Bank on the Health, Nutrition and Family Planning Status of Members". She wrote ".....it is clear that members of Grameen Bank were much more aware about the health consequences of not using sanitary latrines or drinking safe water, compared to non-members". Presently 60% of our borrowers use hygienic latrines which is higher than our national average. But still there is lot of work to be done. Our colleagues working in the field are trying to improve the situation.

Regional Consultation on New Approach to Sanitation for High Risk Communities
Nepal, 17 - 19 November, 1998

Country Paper

Maldives water & Sanitation Authority
Male', Republic of Maldives

INTRODUCTION

The Maldives archipelago lies in the Indian Ocean; approximately 600 kilometers Southwest of Sri Lanka. The 1190 islands occupies a geographical area of some 90, 000 square kilometers and a total land are of some 300 square kilometers. The islands are flat, low-lying and very small. Of the 1190 islands, only 202 islands are permanently inhabited.

Whilst 100 percent of the residents of Male' has access to clean safe water and proper sewerage services, a large majority of the rural population do not enjoy the same facilities. Rural residents still continue to drink untreated rainwater and occasionally untreated well water, which is highly vulnerable to faecal contamination caused by disposal of sewage effluent to the ground.

Although there are some private septic tanks and private and community owned and operated small-bore sewerage systems, some still continue to use the beach or the private *giffilis*[1]. Such unsanitary practices perhaps explain the continuing high prevalence of water-borne diseases in the country. Among those most affected, children are the most vulnerable to these diseases. Although mortality due to diarrhoea and intestinal parasites has been fully controlled by medical treatment, lack of clean water and adequate sanitation continue to affect the health and quality of life of many rural children.

The Government of Maldives (GoM) is fully committed to the goal of safe and adequate drinking water and sanitation facilities for all Maldivians. Provision of these facilities is considered an integral part of the country's Primary Health Care Approach to health for all by the year 2000. Health education with emphasis on water supply and sanitation is considered as important as the facilities in breaking the link between water supply and diarrhoeal diseases.

In response to the International Water Supply and Sanitation Decade (1981 – 1990), the Government of Maldives developed a National Water Supply and Sanitation Master Plan to provide these services for the urban and rural population. A mid-term review was conducted in 1985 to assess the achievements of the national program. An end of Decade evaluation was conducted in 1990.

Drawing from the Decade and post Decade experience, effort is being made to create awareness on an issue of national concern and priority. In this regard, a draft policy paper is being prepared by MWSA, which will provide a basis for, where necessary, relevant policy changes. Such a policy change is fundamental, if provision of these very basic services is to achieve a higher degree of success, particularly for the rural population, which comprise more than 70 percent of the country's population.

1. Present situation in urban and rural sanitation

1.1. Urban sewerage

A comprehensive, island-wide sewerage network was laid in Male' in 1988. Every household in Male' is now connected to this system, achieving the national target of 100 percent coverage for Male'.

[1] A compound within individual premises reserved for the burial of faeces and a shallow dug well for cleaning.

With the completion of the Male's sewerage network in 1988, no major outbreak of water-borne diseases has occurred within the country. To improve and ensure continuity of service, and as part of the Government's policy to privatise these services, the sewerage system has been handed over to a private company.

1.2. Rural sewerage

Access to safe sanitation during the current plan period has reached 40 percent from a baseline level of 22 percent in 1990. Progress in this sector is slow due to geographical, financial and other logistical constraints. With increased awareness, better medical services and increased sewerage facilities, water-borne diseases in the rural islands have also been brought under control.

2. Present policy of the government on sanitation

Experience from sanitation programs in the country and throughout the world shows that sanitation programs are most effective when planned using a participatory, bottom-up process. The Government of Maldives (GoM) therefore gives a higher priority to promote appropriate planning in partnership with all stakeholders. In this regard, the sanitation sector planning, at all levels, are fully in line with and supportive of the overall guiding national development policy.

In this respect, sector planning will contribute to the achievement of principal goals of the current National Health Master Plan (1996-2005) and the Health and Environment Initiative of WHO, and the Agenda 21.

Future planning will not only ensure coverage, but will also ensure use, long-term sustainability and positive impact, both from a health and from an economic and environmental point of view. Long term sustainability implies that in all future programs the service level will be decided by the community's willingness to share costs (capital and recurrent). Service levels will be expanded as the economy and affordability of the community increases.

Where new roles are to be taken-up by the community, planning will also ensure that the supporting agency will have an obligation to provide appropriate community training and backup support.

To ensure greater success of sanitation projects and programs, Maldives Water and sanitation Authority (MWSA) will ensure that initiative and priorities for action comes from the communities and not from the central authority. Priorities will be judged based on economic demand, or a balance between what people want, need and most importantly, are willing to pay for.

It must be noted here that, for most of our communities, who are used to day-to-day subsistence survival, the concept of medium to long-term planning will be a relatively new process. Hence, plans at the central level will be used as guiding and supporting plans for more detailed planning at the community level. The community based planning will therefore require a significant shift in attitudes and approaches at the community, middle and at the central level. In addition, it will require a high degree of political support,

commitment and will. It may therefore take considerable effort, time and appropriate help and support for this concept to succeed fully and to achieve the desired results.

Finally, a critical part of planning will be networking with External Support Agencies (ESA's), intra and inter-sectoral agencies.

2.1. Creating the right policy environment

A right policy environment is required for achieving a higher degree of success in terms of coverage and service delivery. Sector policy will therefore be based on clear objectives, verifiable indicators of achievement and clear resource inputs. Sector policy will also be based on the principal of equity, sound and reliable data and feedback.

Equity implies that the opportunities for those that can afford to take initiatives themselves will be maximized, either through the private, donor or public funding. The latter will be achieved through strengthening links with the information-related strategies, including improved monitoring, evaluation, case studies and action research initiatives. Priority will be given to those that show a willingness to share capital and recurrent expenses. Specific sector policy will encompass the following concepts;

a) Sanitation plays a major role in the promotion of primary health care.
b) Water supply and sanitation must contribute towards the sustainable environment.
c) Sanitation is an important catalyst in the process of rural development

2.2. Specific sector policies

The specific sector policy is to provide universal and equitable access to sanitary means of excreta disposal, reduce disparity between Male' and other islands, control diarrhoeal diseases, protect the groundwater resources from contamination and increase community participation.

Choice of technology will be based on simplicity, reliability, cost effectiveness, affordability and social acceptability.

The sanitation sector policy will ensure increased service delivery and sustainability of services provided. This will be achieved through the following measures.

- effective advocacy to mobilize and redirect sectoral resources
- mobilizing local resources
- use of socially acceptable, technically sound and financially viable technologies
- integration of sanitation and hygiene education with water supply schemes
- increased community involvement and participation
- capacity building required for planning, designing, implementation, operation and maintenance

2.2.1. Policy Issues

i. Coverage & Level of services

The coverage and level of service will be based on willingness of the community to pay for the level of service they choose.

ii. ***Subsidy ceiling***

The subsidy ceiling will be the most critical element of the financial policy. A subsidy ceiling will be determined for each technical option, and it will be set at a level that will provide the right incentives for communities to make financial choices that reflect demand.

The subsidy ceiling will be transparent and equitable, so as to safeguard the social dimension of potable water and sanitation and to provide adequate incentives to the users to choose levels of service they could afford. Since subsidy ceiling is the amount that the government will provide per household for a basic level of service, it will directly affect the financial choices that communities make with respect to the service level. If a community wants to improve services beyond this basic level, the community must bear the costs as stated in (iii) below.

iii. ***Cost sharing***

The government will not act as the sole provider. Instead, any amount over and above the subsidy ceiling set by the government, .based on the type, coverage and level of service the community demands, In addition, the community will be asked to bear all recurrent expenses.

iv. ***Equity***

In line with the Government's policy of providing these services to all rural population, MWSA will place a high priority to expand these services to achieve the national targets for sanitation coverage. Selection process will give a higher priority to those islands where poverty and disease are relatively high, incomes are marginal and sanitation coverage is low. Priorities will also be given to those communities whose economic demand and commitment are high. Informed choices will be offered to determine service levels.

2.3 Present contribution to sanitation

Presently government's contribution to sanitation is limited to projects planned and implemented by the government. UNICEF'is the major international organization that contributes to the sector. Private contribution is limited and confined to small community projects, while NGO contribution to the sector is not very significant.

3. Technologies used in urban/ rural context.

Maldives have tried and tested a variety of sanitary facilities including a variety of dry toilets, community toilets, septic tanks, small-bore sewerage systems and modern sewerage systems. The dry toilets and the community toilets were not socially acceptable and had to be abandoned.

In Male' a modern sewerage system is in place and is being operated by a private company. In other island, septic tanks are being built by individuals while the government continues to construct small-bore sewer systems, which discharges the untreated effluents into the shallow lagoon, close to the beach. Once completed, the system is handed over to the community and

is operated by the community. The government continues to provide technical and support services.

4. Success stories/ Experiences

In April 1996, as part of the government's policy to privatise the water and sanitation services, established a joint venture company - the Maldives Water and Sewerage Company (MWSC), to provide potable water and sewerage services on the island of Male'.

The Company was granted an exclusive monopoly concession for a period of 20 years. The Company operates under a temporary operating licence issued by the Ministry of Health and Welfare.

The Company is presently managed by Rasmussen and Schiotz a/s (R&S) of Denmark, under a management contract entered into between MWSC and R&S. The management contract was required to ensure the following key objectives.

- the utility is managed efficiently and cost-effectively
- facilitate effective transfer of technology and know-how
- instil a disciplined, working culture among the locals

With the establishment of MWSC and the subsequent take-over of the water and sewerage operations in Male' on January 01, 1996 by MWSC, MWSA's initial role as the service provider ceased. With its new mandate, MWSA is instituted as the national regulatory agency for water and sanitation services. Implementation of water and sanitation programs and projects in rural islands is now a function of the Ministry of Health and Welfare.

Prior to the establishment of MWSC, Male' had an island-wide sewerage network and a partial freshwater distribution network. Both these systems were laid as part of a project that was implemented between 1985 and 1988. Though the freshwater component of the project was to provide safe water for drinking and cooking (10 litres per person per day), the demand on the system soon exceeded the capacity of the system to deliver the rapidly increasing demand for freshwater. The demand for freshwater increased with the depletion of the freshwater aquifer of Male'.

To cope with the increasing demand for freshwater, the production and storage capacity were increased, and by end of 1993 MWSA's production and storage capacity of freshwater reached 1440 cubic meter per day and 18,000 cubic meters, respectively. By end of 1995, 34 distribution points were constructed and water delivered free of cost.

From 1995 to 1996 a comprehensive freshwater distribution network was laid in Male' by MWSC, providing direct house connections to all residential houses, restaurants, hotels and institutions. The network is already serving more than 9000 customers or more than 98 percent of the population. A total of ten public taps, located throughout the island, provides access to free water to the under served.

The success of this project is that it has provided freshwater and proper sanitation services to more than 98 percent of the urban population. The success of the project also lies in the fact that with the completion of Male' sewerage network in 1988 and the Male' freshwater

distribution network in 1996, there has not been a single outbreak of any diarrhoeal disease in the country.

National health statistics show that the downward case fatality rate achieved from 1.13 per thousand (1990) to 0.87 per thousand (1992) had not been sustained. In fact, statistics show an increase in the number of case fatalities from 1992 to 1993 (1.40 per thousand).

However, health statistics also show that from 1990 to 1993 the percentage of diarrhoeal cases in children under 5 years of age has decreased (From 60 - 40 percent). Since then, the percentage is on the increase (50 percent in 1994). Similar statistics after the completion of Male' freshwater distribution network is not available for comparison.

These trends indicate the importance of continuing the provision of these services and the the importance of continuing the health promotion and awareness campaign.

5. New Approaches/ Strategies

The new approaches and strategies have been based on experiences gained from the decade and post-decade experiences, which are summarised as follows;

- duplication/ Overlap of activities
- fragmented responsibilities
- diminishing community enthusiasm after start of project implementation
- delay in decision making
- lack of NGO involvement
- Inadequate and slow involvement of women
- lack of incentives for employment conditions
- insufficient health and hygiene education

The new approaches and strategies also recognize the fundamental importance of ownership for the success of a new generation of sanitation programs. In addition, the application of these approaches and strategies will help MWSA to support this principle in three important ways, viz.;

i. Promoting and guiding bottom-up planning and community based implementation and management.

ii. Assisting inter-sectoral and donor coordination and collaboration.

iii. Encouraging appropriate contributions from the community as owners and users and beneficiaries.

5.1 Adopt a demand driven approach

World wide experience of successful WES and regulator programs have proven that the changed role of the government as 'facilitator' is more successful than when the government acts as the 'provider' of WES services.

Here and throughout this paper, "demand" is interpreted in an economic context. An economic demand for a service exists when the beneficiaries demonstrate a willingness to buy the service they want at the price, which is affordable to them.

The demand-responsiveness of a project will be measured by the actual resource commitments users make, and the level and extent with which users determine the design, service level and management arrangements.

5.2 Promote Health Education

Personal cleanliness and sanitation are needed to reap the benefits of improved water supply and sanitation facilities. In this regard, the roe of NGOs, SOs and HTFs will be a strengthened and expanded as a means to help communities achieve a better health status by providing hygiene education. NGO's are better equipped to promote health education and are more effective to make communities understand the possible routes of disease transmission and how improved WES facilities and good health practices can prevent the spread of diseases.

5.3 Promoting self-help

This shall be achieved by implementing programs through partnerships with Island Development Committees (IDCs), Womens' Development Committees (WDCs) and Non-Governmental Organizations (NGOs). Apart from this, the communities will also be provided with adequate training to construct, operate and manage their sewerage systems, and toilets for their own health and convenience and on a sustainable basis.

5.4 Providing financing options and community contracting to improve affordability

Providing financing options are essential to help communities to implement WES programs and to ensure that even the poorest family in a community is not deprived from the benefit of clean water and sanitary toilet. Affordability shall be improved through establishment of a revolving fund and by awarding contracts to Island Development Committees (IDC's). The overall objective of the island (rural) sanitation program is to improve the health and well being of the island (rural) population. This will be achieved by;

- expanding environmental sanitation technology to rural islands
- reducing disparities between water and sanitation service coverage
- promoting equity in terms of service and resource allocation
- relating sanitation programs with other health programs
- building capacity at grassroots level
- preserving the environment by promoting sanitation
- strengthening inter and intra-sectoral collaboration
- forging alliances with private sector
- developing research and development capability

6. Future Plans/ Programs to increase coverage

All future programs will be based on sound assessments of the situation and needs, including human, financial and material resources, technical potential and past experiences. In this respect, this document reflects a sincere effort to highlight the importance of moving away from a rigid, short-time-horizon, donor and supply driven pattern of service delivery towards a more flexible, long-time-horizon, community led and managed, demand driven pattern of

service delivery. Such a planning and implementing strategy shall reflect community demand and informed choice.

Approaches

- Develop transparent policies, clear rationale, guidelines and criteria for providing sanitation services.
- Adhere to adopted policies and ensure compliance by all parties.
- Adopt a demand-based approach in selecting/identifying the 'priority' island, and in determining the level of service to be provided.
- Level of service and coverage to be decided based on community contribution.
- Promote sense of ownership through involvement of the community in the very early stages of project planning and at all subsequent levels.
- Provide incentives for greater community participation.
- Assign procurement and construction works to the community.
- Design and install a system appropriate to the demand of the community. Adopt a flexible approach. (Do not install small-bore sewer systems on larger islands).
- Remove septic tanks unless absolutely necessary. Prefer catch-pits wherever possible.
- Reduce the number of sea out-falls.
- Involve NGO's in raising community awareness, particularly that of women.

Targets

- Provide sanitation coverage to 80 percent of rural population.
- Provide small-bore sewer systems to 25 percent of inhabited islands.

Priority Focus

- Formulation and enforcement of appropriate standards and guidelines for sanitation
- Human resources development
- Training of plumbers and promotion of good engineering practices.
- Development of low cost sanitation technologies for island communities.
- Provision of adequate sanitation facilities for island communities.
- Rehabilitation and upgrading of old/ existing schemes.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/6.2.4
13 November 1998

INDIA – CASE STUDY

INTEGRATED SANITATION PROJECT

MEDINIPUR

WEST BENGAL, INDIA

A

CASE STUDY

The Project Area

Midnapur, in the State of West Bengal is one of the largest districts in the country with a population of 8.35 million as per 1991 census. Most people, 7.50 million, are rural.

While 63.85% of Midnapur's total area is under cultivation, making agriculture the chief occupation and source of income, the presence of coast line also helps in providing a living for many people. However, one of the main hindrances to Midnapur progress down the years has been the fact that it is a low-lying area, especially prone to floods during the monsoons. The resulting epidemics of cholera, typhoid and other related diseases have, in turn, severely affected the lives of the people and economy of the land.

The Midnapur integrated sanitation project was initiated by the Govt. of West Bengal in 1990. The project is sponsored by UNICEF and implemented by Rama Krishna Mission Lokashiksha Parishad (RMLP) in close collaboration with Midnapore Zila Parishad. The district is one of the very few in the country to be declared as totally literate under the adult literacy program of the Literacy Mission of the GOI's HRD Ministry. The primary aim of the project was to introduce the concept of sanitary latrines in the district on a large scale, with the ultimate goal being to ensure that 25% of all rural households had sanitary latrines of their own by 1991.

During the course of implementation, it was decided in Midnapore to have a general advocacy on environmental sanitation so as to cover 80% of the rural population by 1996 while ensuring actual construction of sanitary latrines and use and maintenance of sanitary facilities by at least 50% of the targeted households. CDD-WATSAN strategy was introduced in Midnapore in 1993, with the ultimate goal of reducing infant and under 5-child mortality.

The Project

The Integrated Sanitation Project, Midnapore has adopted an integrated approach towards sanitation centred around the following objectives:-

* makes people realize the need for sanitation through advocacy and generates demand through presentation of options;
* facilitates revelation of demand through a range of technical options with price tags;
* builds capacity for advocacy through training;
* builds capacity for production of materials through training and working capital;
* builds administrative and accounting support through training;
* brings together already existing village level organisations and enables them to effectively play all of these roles;
* involves the community, especially local youth clubs and women's groups during the planning and implementation stages;

* establishes inter sectoral linkages to help promote immunization, ORT, nutrition, education and income generation activities among women.
* Aims at 'zero subsidy' towards construction of sanitary facilities.

The Organisational Structure

A three-tier organisational structure has been set up to help meet project goals. It comprises of Ramakrishna Mission Lokasiksha Parishad (RKMLP), Cluster Organisations (Consortiums of Voluntary Youth Clubs) and Youth Clubs. Cluster organisations have been set up within Community Development (CD) Blocks. Each CD Block has a population of around 1,50,000. Fifteen such organisations have been identified and developed for implementing the programme in Midnapore which, till now, has covered 54 blocks through 1107 Youth Clubs.

RKMLP interacts with the State Government and District Administration for effective implementation of the project through cluster organisations in the CD Blocks. Cluster Organisations plan, implement and monitor all the project activities, including advocacy and training, as well as production, procurement and installation of hardware components. They chalk out activities in consultation with associated Youth Clubs and provide a link between RKMLP and the village units Village Youth Clubs render their services voluntary and have the same responsibilities as the cluster organisation village 'Panchayats' , with locally elected representatives of the villages provide valuable support to Youth Clubs in planning and implementation of the project. UNICEF facilitates in the implementation of the project by providing necessary support and guidance with regard to advocacy, training, administration and establishment of an effective delivery system.

The Approach

The project did not assume a target oriented approach in the traditional sense. The emphasis was on defining a process and direction, which sets the pace for achieving physical targets. The central theme of the process is advocacy to be done by properly trained local persons. Advocacy coupled with presentation of options created demand for which the necessary capacity for production and delivery of latrine components was built by the project. The NGO chosen for intermediation enjoyed goodwill in the project area. The intermediation consisted of advocacy and training.

Cost Sharing

The project offers a total of 12 models ranging in costs from Rs.375/- to Rs.3,500/-. Subsidies are provided only to families below poverty line and the level of subsidy has been reduced from Rs.2,000/- to Rs.200/- per family. This means that there is no longer shortage of subsidy funds from the CRSP – constraining the rate of uptake of latrines. Moreover virtually all poor families now opt for the lowest cost of Rs.375/- single pit water sealed latrines, which while basic are quite adequate for hygiene purposes. This makes their own contribution of Rs.175/- more affordable. More than 70% of the beneficiaries have accepted the direct

one pit latrines. The usage rate in the district is over 90%.

Salient Features

The main salient features are :-

* No. of Blocks taken up -54
* No. of villages taken up -8116
* No. of Youth Clubs involved – 1017
* No. of Cluster Organisations Involved - 15
* No. of Production Centres Cum Sanitary Marts - 35
* No. of Villages declared Sanitation villages - 219
* No. of Blocks declared Sanitation blocks - 1

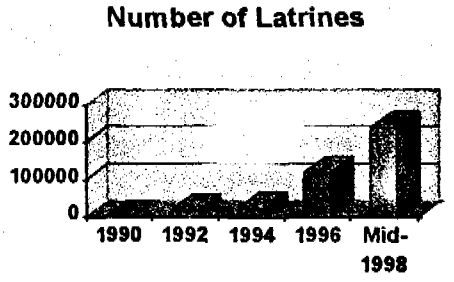
Coverage

The coverage as on mid 1998 is as under :-

* Household low cost latrines

Self Financed	-	91525 nos.
Under CRSP	-	147481 nos.
Total	-	239006 nos.

* Soakage pit - 752 nos.
* Garbage pit - 6042 nos.
* Washing Platform - 420
* Bathing Platform - 749
* Improved Ovens - 20022
* Biogas linked household Latrines - 902
* ORS packets sold - 104351
* IM III Handpumps- 2282
* Tara Handpumps - 5286



Other Benefits

One of the indirect benefits of the project which has significant implications for poverty alleviation is the wage employment of about Rs.15 million involving 5,00,000 mandays. The other benefit is that the community gets one Tara Handpump free as incentive for every 50 latrines installed.

Review and Monitoring

Through a regular, intensive system of monitoring and reviewing at all levels of the Project, ISP Medinipur is able to successfully assess its own progress, achievements and drawbacks.

The various activities performed by the Youth Clubs are monitored by the Cluster Organisations regularly, while the performance of the Cluster Organisations is reviewed by the RKMLP every month.

The District Level Committee is represented by RKMLP, UNICEF and district officials who meet once in every three months under the Chairman of the District Council to facilitate smooth implementation of the Project.

The State Level Committee meets twice a year to discuss objectives and strategies. It also reviews progress and problems pertaining to the Project.

The Committee comprises of representatives of UNICEF, RKMLP, the departments of Rural Development and Public Health Engineering of the Government of West Bengal, District Council and other government functionaries.

Role of UNICEF

Unicef extended funding support for activities of a software nature like advocacy, training/orientation etc. Over 50% of the total funding have gone for the revolving fund that has made a signal contribution in ensuring production and supply of materials to meet the demand in a timely fashion. This has also contributed towards sustainability for future coverage even after UNICEF funds are discontinued. In the beginning, UNICEF financed the overhead costs. These costs are now recovered from the beneficiaries as service charges at the rate of Rs.40/-for latrines costing upto Rs.800 and at the rate of Rs.50/- for latrines above Rs.800/-. In fact these costs accounted for 15% of the unit cost initially and they have come down to 5% as can be seen. The recovery of these costs did not have a negative impact on demand either.

Influence on Policy

The guidelines under Central Rural Sanitation Programme of Government of India provides for a subsidy of Rs.2000 per unit. GOI has agreed for relaxation of these guidelines in the state of West Bengal where a subsidy of Rs.200 is provided for beneficiaries below poverty line alone. Also the subsidy is administered in kind, in terms of materials and no cash disbursements are made.

The Govt. of West Bengal proposed to enhance allowable 10% of CRSP allocation for IEC/HRD to 40%. The proposal has got approval of GOI.

Special features

Spreading the word around

Community mobilisation is one of the most important activities of ISP Medinipur as it promotes awareness regarding health and hygiene among the rural populace. It is carried out through trained motivators drawn from among the target community. The key strategies being implemented for mobilizing people are :-

Home Visits : Motivators, field staff and village-level Youth Club functionaries regularly visit the villagers, to convince them of the need to avail sanitation facilities offered under ISP Medinipur. These interpersonal contacts have proved to be very effective. Till date 3,03,004 home visits have been made.

Motivation Camps : Around 12,00,000 villagers, including a large number of women, have attended these camps organised by local Youth Clubs. As many as 2000 such camps have been organised so far.

Exhibitions : Seasonal fairs and festivals are used by the Project motivators as occasions to promote and

disseminate information about what ISP Medinipur has to offer including the display of different sanitation facilities in sanitation camps and exhibitions. So far 300 exhibitions have been organised for the purpose.

Communication materials

Materials have been prepared to help communicate various aspects of the programme to differ target groups.

* Flash cards for motivators.
* Calendars depicting the many facets of ISP, for distribution among target families.
* A comprehensive package of IEC materials that include Guide Books on standard production and installation of sanitation facilities for technical, field personnel and masons.
* A Motivator's kit comprising of a comprehensive package of communication materials.
* Audio-visual materials.

The medium is the message.

Sanitation messages are spread across the district using different media. Some are innovative, but all have proved to be highly effective tools in the communication process.

Wall Writings : Messages and slogans related to the Project and its facilities, and to the problems arising from insanitary conditions, have been painted on walls of houses and schools.

Video & Slide Shows : To reach out to all sections of people, slide shows and video programmes have been developed, based on various aspects of ISP Medinipur. 1,152 such shows have been organised so far.

Song Squads : Both professional and villagers have written songs on sanitation and the ISP. Folk troupes have been guided to prepare and present items based on sanitation themes. This approach has proven fairly effective in mobilising the masses.

Developing human resources

No development programme, however well-formulated, can ever hope to succeed without the co-operation of local people. Be it for advocacy, implementation or sustenance, ISP Medinipur ultimately relies on people for its success.

Today, ISP Medinipur is very much a people's movement. And if the project is to be ultimately self-sustaining, those involved must be trained on different aspects of sanitation.

Recognising this need, several training packages have been developed under ISP Medinipur :

- to train people in various aspects of programme communication and motivation;
- to help them in programme implementation and sustenance.

Building the base : Training of Motivators

Through regular organisational and motivational training, ISP Medinipur has helped strengthen its base. Orientation and training programmes are organised for project personnel, motivators, Cluster and Youth

Club leaders, 'Panchayat' and WATSAN Committee members. Participants are familiarised with various 'software' aspects of the Project. Steps are taken to develop efficient rural managers for smooth implementation of the programme.

Approaching implementation through communication

Generate awareness by providing information

↓

Create interest in the new facilities

↓

Alter perceptions

↓

Develop conviction in the product offered.

↓

Motivate direct action to install the facility.

↓

Provide support & reassurance

Training of Masons

Keeping in tune with the Project's integrated approach to sanitation, technical training is provided in addition to training on organisational and motivational aspect. Courses are held to train village masons in the construction of latrines, smokeless chulahs, drilling of tube wells and the installation and maintenance of Tara handpumps.

Setting the pace for progress

If the different hardware and software training programmes have succeeded in giving the Project a strong base, it is the village Youth Clubs, Women's Organisations and Village Motivators who have actually set the pace for ISP Medinipur.

Village Youth Clubs, Women's Organisations, Leaders and Motivators, with the active support of Panchayat institutions, play a major role in motivating the community. Being local community institutions, they have the support of the people of the area.

Promoting sanitation through social marketing

The Project has brought sanitation to the doorsteps of thousands is a fact which speaks volumes for its efficacy. It is social marketing that has made the programme so successful and sustainable.

Making use of Local expertise

Community participation has always been the hallmark of ISP Medinipur. It is also, perhaps, the strongest driving force behind the Project.

This unique self help approach to sanitation is strongly evident in areas such as latrine construction. Masons are chosen from among the local population and trained for the specific purpose of putting together the various hardware components necessary to build a latrine. Even the components themselves are locally manufactured utilising workforce from the villages.

Creating a sense of belonging

By encouraging participation of the villagers at every stage of the development process, ISP Medinipur has proved to be a successful people's movement. It has helped develop a sense of pride and belonging among the villagers. Since the villagers themselves bear the entire cost of installation, the facilities installed in their houses are fully used and maintained well.

Promoting the sanitation package

Low-cost latrines are just a part of the total sanitation package being offered under ISP Medinipur.

In its efforts to promote an integrated approach towards sanitation, the Project has helped develop a complete range of other sanitation-related facilities. These include soakage pits, smokeless chulahs, garbage pits, washing platforms, bathing platforms, etc. The success of the Project lies in the fact that all items are promoted together and not in isolation.

At the same time people are also made aware of the importance of safe handling of drinking water, maintaining personal hygiene, home sanitation and food hygiene.

The Tara Pump

Potable water is a key component of the intensive Sanitation Project of Medinipur.

To make it readily and easily available, the direct action handpump, popularly known as the 'Tara Pump' which has been specially designed for easy operation and maintenance, has been installed on a large scale. With the installation of the Tara pump, a community-based water maintenance system was introduced as an experiment in villages under ISP Medinipur to promote proper handling of safe water as part of the sanitation package. Easily repairable by the villagers themselves, the downtime of the Tarapump is almost negligible.

Even after five years of installation in some villages, every Tara pump is in perfect working condition due to the collective and sustained efforts of the people. Every Tara pump is monitored by a WATSAN committee comprising of seven members from the community. The community also jointly contributes Rs.500 as an initial fund, following which, every family pays 50 paise per month towards maintenance of the pump. Maintenance and repair of each of the Tara pumps is undertaken by two women caretakers identified from the users and trained for the purpose before installation of the pump.

Community Based Water Quality Monitoring

The concept of community based water quality surveillance was introduced involving Anganwadi workers. The Anganwadi workers were placed at the core of initiative for two reasons. The first reason is that the Anganwadi workers work closely with the mothers in the villages and the second reason is that the surveillance of mother and child health as well as hygiene education are already part of Anganwadi workers' agenda. After a baseline study 11 villages of Daspur block were selected for the pilot project. In each of the 11 villages, a seven member committee was formed to

manage the project at local level. An important challenge faced by the implementers of the pilot project was to develop a portable, low cost user friendly field kit.

Water quality testing for more than existing designs were carefully evaluated. Through a long process of testing in the field and in the laboratory, AIIH & PH developed the final design for the field kit. The AIIH & PH trainers found that the Anganwadi workers quickly learned to use the kit in the course of a one day training session, after which most could conduct the tests quite efficiently. The pilot project covering 11 villages proved to be a great success. During this pilot project, the Anganwadi workers were not only trained to conduct water quality tests but also learned how to take remedial measures if a drinking water source was found to be bacteriologically contaminated. After the successful completion of the Daspur experiment the project was extended to all the 20 ICDS blocks. The expanded project in 20 ICDS blocks developed the following three tier organisational structure.

The first tier consists of the village level committee and the anganwadi worker, and is responsible for testing water samples and taking necessary minor remedial measures. Information flows regularly to the ICDS Block-level officers, the Child Development Programme Officer (CDPO).

The second tier consists of panchayat functionaries at village and block levels, with the responsibility for taking remedial action of a moderate nature.

The third tier is formed at the district level with DPrO, Zilla Parishad and social welfare department functionaries. This tier is responsible for district-level assimilation of information and for taking action in case of major contamination of water sources.

Information flows to the State Programme Officer (SPrO) at quarterly intervals, and from there to the Ministry of Women and Child Development, Government of India.

Village Level Committee :
Anganwadi Worker tests
Water source

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Report to

CDPO at the block level

↓

DPrO at the district level

↓

SPrO at the state level

↓

Ministry of Women & Child Welfare,
Government of India

Promotion

The project and its agenda were promoted among the villagers by several means : some traditional and some innovative, including :

* Door-to-door interaction/village meetings.
* Wall writing in public places.
* Slide shows at the village community level.
* Participation in local fairs.

* Discussions in weekly mothers' meetings or in the literacy committee meetings.

Success

The expanded pilot project in the 20 blocks commenced in May, 1994. A review after two years indicated a consistently high level of community participation in most of the villages. The awareness level had increased to such an extent that village women themselves were bringing samples from their water sources to the anganwadi center for testing. Boiling water before drinking had become a common practice, particularly during the summer and monsoon seasons when diarrhoea is most common. Participation of the community in terms of contributions towards the water quality surveillance fund remained very high in many villages. In addition to contributions in cash, some Village Panchayats and individuals contributed kerosene to run the incubator or procured bleaching powder for disinfecting water sources. Although not substantiated by independent confirmation there is some evidence indicating that the measures to protect the quality of drinking water were resulting in fewer numbers of serious diarrhoea cases in the project villages.

Increasing Demand for Facilities

Following the success of ISP Medinipur, youth organisations in the district are coming forward to participate in the Project. Many families too, including those in low-income groups, are eager to install latrines and are even making advance payments for them. Particularly keen are the womenfolk who are proving to be a vital factor in influencing their family heads to opt for sanitation facilities. The project has also provided opportunities for entrepreneurs to enter the field to produce and market sanitary items.

Significantly, the use of latrines has also helped inculcate in the hitherto indifferent villagers, a sense of hygiene. In villages under ISP Medinipur this has resulted in an appreciable reduction of diarrhoeal diseases and brought about desired behavioural changes.

Issues

The approach adopted is effectively changing the habits of people from open defecation to use of latrines. There may however be a valid criticism or concern in some quarters that this process, to the extent it errs on the side of willingness to pay, may compromise the technical requirements? UNICEF has therefore initiated investigative studies on the use, effectiveness and the technical soundness of the latrines.

Lessons Learnt

Adoption of sanitary latrines by a household depends on availability of a range of option which alone determines what people want and what they are willing to pay for it. While awareness creation plays a social role the option performs an economical function by converting need or preference into effective demand.

Once the demand is revealed it should be effectively backed up by financial arrangements (revolving fund in this case) and

institutional/management arrangements to oversee disbursements, to obtain commitments and to enforce them. The Midnapore experience shows the way for a much needed alternative delivery mechanism for both achieving the coverage and sustainable investments.

The loan repayments tend to be prompt as the loan is consciously opted for and linked to repayment capacity unlike the loans of a thrust upon variety driven by norms.

The approach is successful in quickening the pace of sanitation coverage and particularly in reaching the poor.

Till now thrust has been laid on community level IEC by way of group meeting, Mahila Meetings, intimate inter-personal contact like home visits. Although the grass-root level workers are toiling hard to make the people aware but lot more activities in IEC including utilisation of media are also necessary.

The NGO – Panchayat collaborative drive has helped in developing an alternative delivery system and operationalise sanitation programme in a man movement mode.

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

Regional Consultation on
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12 November 1998

MYANMAR – CASE STUDY

REGIONAL CONSULTATION ON NEW APPROACH TO SANITATION FOR HIGH RISK COMMUNITIES
POKHARA, NEPAL 17-19 NOVEMBER 1998

CASE STUDY

INNOVATIVE APPROACH TO RURAL SANITATION PROGRAMME IN WET-KA-THAY VILLAGE (MYANMAR)

CONTENTS

INNOVATIVE APPROACH TO RURAL SANITATION PROGRAMME IN KA-THAY VILLAGE MYANMAR
A CASE STUDY

General Background

Despite the concerted efforts and considerable inputs during the International Drinking Water Supply and Sanitation Decade (IDWSSD), 1981 to 1990 and up to the middle of this present decade, end 1995, the sanitation coverage is still low; 56% for urban, 36% for rural and 43% for national. A recent survey on behavioural and personal hygiene practices revealed that only 17.5% wash their hands with soap and water, 38.2% use water only and 41.7% do not wash their hands at all after defecation. All these factors attribute to high incidence of excreta related diseases, especially diarrhoea, causing about 150 000 episodes annually and accounting for about 65% of total water and excreta related diseases.

To meet these challenges of poor hygiene practices and low level of coverage it became necessary to change the existing cost-sharing supply driven top-down approach to self-help need-based driven community participatory approach using social mobilisation process. This brings together all feasible, potential and practical allies from multisectoral organisations, including NGOs, to raise the awareness of the people, motivate them for their positive behavioural change and create demand for these facilities. This also helps to mobilise communities' resources, strengthen their participation and empowerment, promoting sense of ownership and responsibility for long-term sustainability, fostering the spirit of self-reliance and integrity.

1. The Initiative

According to Resolution No. 9 of the Twentieth Meeting of the National Health Committee, October 30, 1995 it was stated that the Ministry of Health and the Ministry of Progress of Border Areas and National Races and Development Affairs work together to promote the systematic construction and usage of fly-proof latrines (sanitary latrines) by all households in both rural and urban areas in the country to meet the goals of "Sanitation for All by the year 2000".

Keeping in line with Resolution No. 9, the Environmental Sanitation Division (ESD) of the Department of Health (DOH), Ministry of Health, which is responsible for rural sanitation has stepped up its sanitation programme nationwide. The main programme focus is on the construction (and usage) of sanitary latrines on a self-help basis using Social Mobilisation process as the tool for implementation. See Annex I - "Social Mobilisation for Sanitation".

Advocacy campaigns were held at the regional levels while orientation and training workshops were conducted for mobilisers and trainers at the township level.

Villages in the project area were visited and meetings and workshops were held. Training in the construction of sanitary latrines were conducted by ESD engineers and educational health talks were given by personnel of the Central Health Education Bureau (CHEB) and Basic Health Staff (BHS) of the Department of Health

The sanitary latrine construction project in Wet-ka-thay village is considered as one of the crowning successes in sanitation. This paper is intended to be used as a "case study" to help organizations engage in planning and implementing environmental project in townships. However, the challenge is to replicate the experience from this village to township level.

2. A Project is Born

At a meeting between the Magway Divisional Health Office and ESD, a decision was made to conduct, as a pilot project, an experiment on developing the process of participatory and self-help basis for construction and use of sanitary latrines and improved hygiene practices.

Wet-ka-thay village was selected with the intention that it would become a model village for Magway Division.

3. Basic Information

Wet-Ka-Thay Village

Wet-ka-thay is a village of slightly over 400 households with a population of 2 486 situated in Taung-dwin-gyi township, Magway Division, Central Myanmar. It lies on the Yangon-Pyay-Mandalay highway and is about 8 miles south of Taung-dwin-gyi town. A self-supported sanitation project in the construction of sanitary latrines was successfully implemented in a period of 7 months including preparation time for preparatory work, the actual construction time being only 3 months. The project was self-supported in the sense that all expenses for the project was borne by the villagers themselves.

4. Demand Creation for Sanitation

Township Level Meeting

A meeting at township level was held in Wet-ka-thay village high school in December 1995. It was attended by the Township Medical Officer (TMO), Health Assistant (HA), Health Education Bureau (HEB) personnel and Divisional Health office of Magway Division together with ESD officials, Chairman and members of the then

Village Law and Order Restoration Council (VLORC), now Village Peace and Development Council (VPDC),. elected community elders and Headmistress of the village high school.

The decision to implement latrine construction was conveyed to the village elders. It was explained that the goal of the project was to improve the general health of the villagers and the environment of the village as well.

The Chairman of VLORC and the community elders strongly felt that the potential for a successful implementation of the project was good. They unanimously agreed to accept the responsibility of the carrying out of the proposed project.

Visit of the ESD Team

The township level meeting was later followed by the visit of the ESD team in January 1996. ESD held meetings with VLORC personnel, community elders and villagers and conducted a workshop to initiate the project of constructing sanitary latrines in the village. ESD also participated in forming a Supervisory Committee to oversee that the project runs smoothly according to the schedule set by the villagers themselves.

The Myanmar Maternal and Child Welfare Association (MMCWA) of the village was also formed at about this time and alter it actively participated in this scheme.

Response of the Villagers.

Even though public meetings were well attended, progress in the initial stage was slow. However, as home to home visits were made by community elders, members of MMCWA and Union Solidarity Development Association (USDA), construction of latrines began to gain momentum. This momentum was maintained by the regular monitoring of the work progress and the setting of a reasonable time limit until almost 100% of the total households had completed the construction of sanitary latrines.

5. Management of the Process, Key actors and their roles

The Supervisory Committee was formed comprising members elected from the following groups :

- Village Law and Order Restoration Council.
- Health Department (Environmental Sanitation Division, Health Education Bureau, Health Assistant and Midwife)

- Elected Community elders,
- Myanmar Maternal and Child Welfare Association (MMCWA)
- Union Solidarity Development Association (USDA).

The Chairman and members of the VLORC provided all necessary leadership in organising meetings, health talks, workshop and coordinating the activities of groups participating in the project.

ESD was responsible for conducting workshop and providing technical assistance in the construction of different types of sanitary latrines.

Health Education Officer, Health Assistant (HA) and Midwife gave talks on health education and collected statistics on the health status of the village.

Members of the Elected community elders, MMCWA and USDA provided close supervision in the latrine construction by making house to house visits to monitor work progress and carry out inspection on the proper usage, cleanliness and the maintenance of the latrines constructed.

The advantage of this village is that the village has ample water supply from both tubewells and surface wells. Tubewells fitted with hand pump can be easily worked even by children. Water from surface wells is drawn by buckets. The waters is adequate for use in flushing and cleaning the pans. However, some families have constructed direct pit latrines where flushing is not required.

6. Financing System

Cost sharing and Subsidy

From the onset of this programme a determined self-help financing system was used instead of incentive based free supply of PVC pans and pipe system applied earlier. Therefore, there is neither a cost sharing system nor subsidy system.

Affordability of latrine

Wood, bamboo and thatch are construction materials locally available at affordable prices to the villagers. Moreover, some of the construction materials are obtained free from one's own compound. Labour cost for the construction of a latrine, including the digging of a pit is about Kyats 300 and cost of local materials is about Kyats

700 totalling Kyats 1000. For families preferring the use of plastic pans and can well afford them, the pans are available at nearby Taung-dwin-gyi town at a price of Kyats 550, as well as other townships across the country.

Cost of minor maintenance is negligible but expenses for major repair works are rather too early to estimate as most of the latrines are still in good condition. The villagers are confident that expenses for major maintenance works will not be problem for them either.

Strategy

The following strategy was successfully adopted in implementing the project at Wet-ka-thay village.

Alliance Building

The alliance of different groups in forming the Supervisory Committee proved to be very effective in that responsibilities were shared and conscientiously carried out.

Many of the members of these groups had undergone training in the construction of latrines given by ESD engineers and attended talks by BHS. They, therefore, knew exactly how to perform their assigned tasks.

Awareness Raising

Available resources of all kinds at the village level were utilized in making the villagers become aware of the need for constructing sanitary latrines.

Meeting

Public meetings organised by VLORC were conducted by the TMO, HA, HEB personnel and midwife of the Magway Divisional Health Office, ESD engineers and the village elders and school teachers.

Video Show

A video show on latrine construction and its health and social benefits was screened in the village video hall by ESD engineers.

PWE, a local public theatrical show for entertainment

Even a pwe playing the village at that time was taken advantage of to include a skit on the latrine project in the village. (A "pwe" is a traditional all-night local theatrical show where almost every member of the family goes for entertainment).

The health and social benefits of constructing a sanitary latrine at one's home were stressed at every public meeting in persuading and encouraging villagers to change their sanitary habits.

The community elders felt that without a basic understanding of the need and importance of constructing a sanitary latrines, it would be very difficult, or may even be impossible, in trying to organise the villagers to participate fully in implementing the project.

Information, Education and Communication

The following messages were repeated at every meeting and workshop.

"To construct a sanitary latrine is to be free from:

1. Prying eyes
   -assurance of privacy in using a proper latrine

2. Odour
   - offensive smell from decomposing faeces

3. Flies
   - transmitter of diarrhoeal diseases

These messages made a very effective impression on the public and have become powerful force in motivating them to construct their own latrines.

The village dispensary was, and still is used as an information center where posters on health education and the construction of latrines and of their benefits are exhibited. Diseases transmitted by flies and their consequences are also shown. Billboards erected at main entrance to the village show the use of a proper latrines in place of open defecation.

Social Mobilisation

Teachers of the village high school organised talks for school children on good sanitation, personal hygiene and the need for constructing latrines at homes. The school children were then asked to pass on these information to other members of their families.

A workshop was held by the ESD team for about 30 villagers to train them in planning and implementing their own sanitation programmes. The participants were also mobilised in relaying information gained at the workshop to others in the village. These participants later took active parts in supervising the villagers in constructing their own latrines.

Personal cleansing and handwashing with soap and water every time after using the latrine was equally stressed at public meetings and workshops. The importance of handwashing as related to the transmission of diseases was greatly emphasised. The villagers were urged to practice the habit of using water and soap for personal hygiene and good sanitation.

8. Technology and its Application

During training in the construction of latrines, a step-by-step demonstration of a model of sanitary latrine was conducted by the ESD team. Three types of latrines were constructed at Ket-ka-thay village. They are:

Type 1. Pour-flush latrine with offset pit using plastic pan - 24%

Type 2. Pour-flush latrine with offset pit using wooden chute - 70%

Type 3. Direct pit latrine constructed on earthern mound - 6%

Type 3 is the cheapest and easy to construct among the three but nevertheless equally effective in keeping out flies and odour as Type 1 and 2. See Annex II.

With training completed, the actual construction of all three types of latrines was supervised by the trained villagers. In fact it was the transfer of technology in action where techniques of construction was passed from the ESD engineers to the villagers.

A skeleton model of the direct pit latrine was constructed by the Chairman of the VLORC in his own compound where villages about to construct such type of latrine came tohim for advice.

9. Monitoring

House to house visits were made by the elected community elders and members of the MMCWA and USDA to monitor the work progress. They collected statistics on the completed latrines, their types, usage, and maintenance. Those lagging behind were helped out by volunteers to complete their construction within the time limit set.

10. Benefits, Increasing Demands and Evidence

The villagers have increasingly learned about the importance of having sanitary latrines at home and have begun to enjoy its benefits first hand.

Benefits presently enjoyed are:

- the reduction of flies to a negligible level even during the rainy season when mangoes, the seasonal fruits are plentiful and fly infestation is at its peak (flies like to feed on mangoes)
- the absence of offensive odour from latrines in the village which was strongly present before the project started.
- a noticeable reduction in diarrhoeal diseases and worm infetation as reported by the villagers themselves. The Health Assistant is currently compiling more information in this aspect.

Increasing Demands and Evidence

As this project brought tangible benefits and as the news spread demands were received from nearby villages of the same township and Talokepin village having a population of 1 105 embarked on the project achieving remarkable 100% coverage. Similarly, two villages in Bilin township of Mon State pursued the programme achieving 86% coverage. Details are given in the Annex III.

The first national sanitation week launched in May 1998 aimed at one million new latrines to be built countrywide. Up to the end of July 1998 over 720 000 new sanitary latrines have been successfully completed using self-help financing and social mobilisation process. These are the clear evidences of the success of the Social Mobilisation process in sanitation.

11. Issues and Solutions

- low level of knowledge, attitudes and practices (KAP) in health and personal hygiene among the community needs time and patience by the mobilisers. This could be solved by the repeated efforts of the dedicated mobilisers, their degree of endurance and unyielded zeal

- poverty is one of the issues in some instances especially among widows and old-aged persons. This is usually solved by the generosity of the neighbouring community in providing voluntary labour, cash and kind which is the custom and tradition of Myanmar's culture.

12. Lessons Learnt

Wet-ka-thay village having a total of 402 households had only 7 latrines before the start of the project. Within 7 months 393 new sanitary latrines have been constructed totalling altogether 400 latrines for 402 families accomplishing 99.5% progress.

The successful implementation of the project was celebrated in August 1996. The celebration was well attended by the Chairman of the Township law and Order Restoration Council, Magway Division, the Assistant Director of ESD, the Township Medical Officer (TMO), village elders and responsible officials. The villagers turned out in force to commemorate this event. This village was duly recognised and proclaimed as a model sanitation village in Magway Division thus raising the integrity of the village.

The following lessons have been learnt out of the Wet-ka-thay village sanitation project.

- high political commitment and attachment of high priority is the key to success of the project.

- translation of information and transfer of know-how into action by the dedicated mobilisers especially at the village level is crucial.

- dedicated leadership's role, supported by the enthusiasm of the local administrative authority decides the degree of success.

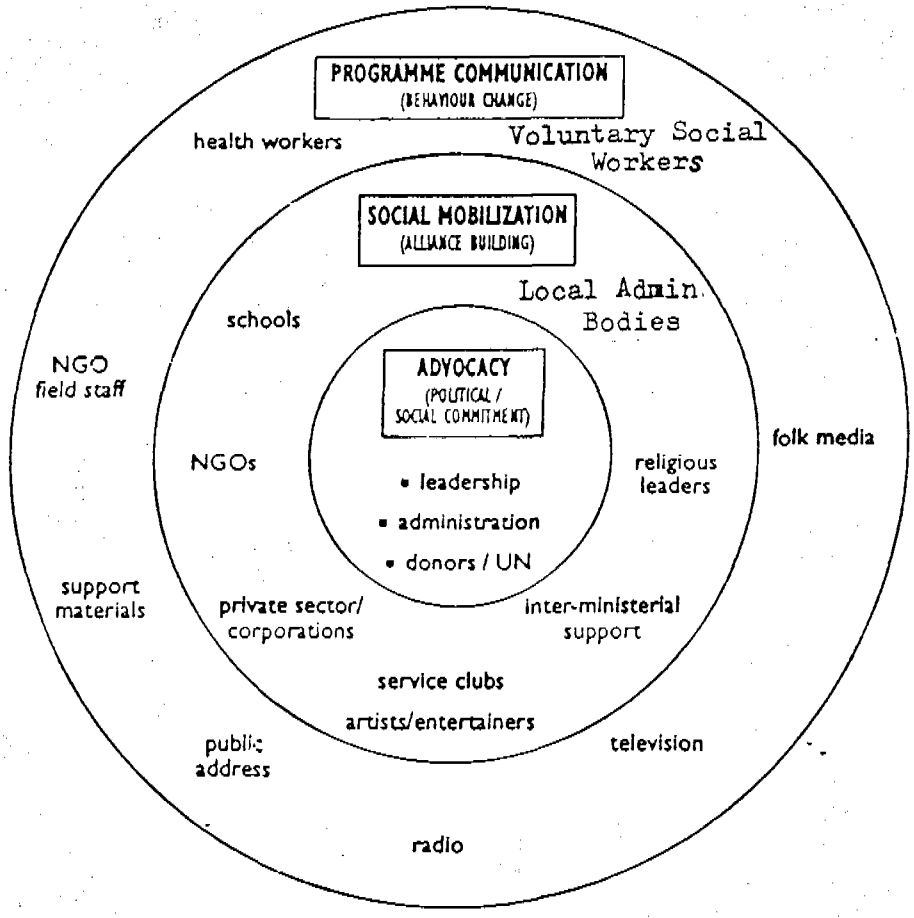
- school net-working is very effective involving students, teachers and parents acting as mobilisers, change agents, multiplier health educators and implementors.

- alliance building is a must for participation of all potential partners including community and NGOs.

- official recognition, declaration and appreciation by the governing authoritative bodies creates ripple effect causing motivation to nearby communities.

ANNEX.I

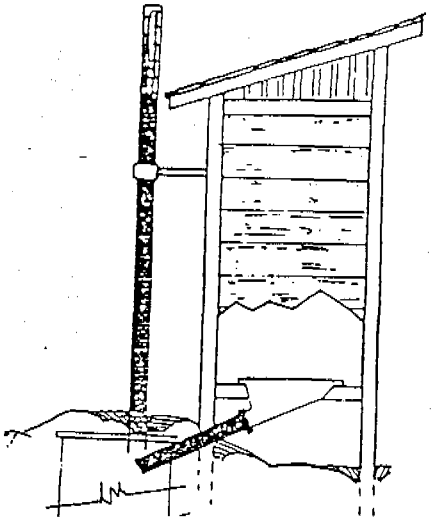
Social mobilization for sanitation



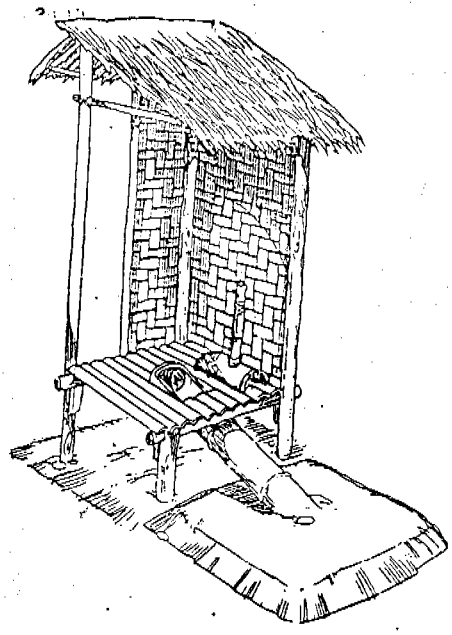
Adapted from McKee 1992

Communication strategy for sanitation for all

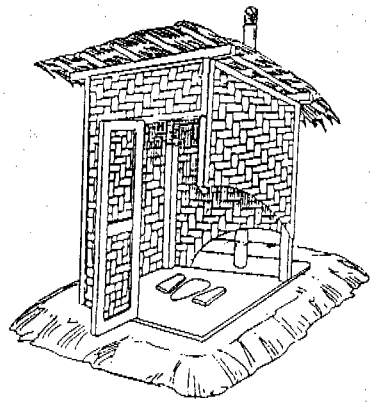
LOW COST SANITARY LATRINES



Pour Flush Offset Pit
PVC Pan (Wet Type) 1



Pour Flush Offset Pit
Bamboo Pipe (Wet Type) 2



SIMPLE DIRECT PIT
(Dry Type) 3

Annex III

Pilot Sanitation Project under self-help financing, and Social Mobilisation Process, 1996

S/D/Tsp/Village	Household	Popl.	Latrine construction during 3 months					
			Existing	%	New	%	Total	%
Magway Division								
- Taungdwingyi Township								
- Wet Ka thay Vil	402	2 486	7	1.7	393	97.8	400	99.5
- Talokepin Vil.	153	1 105	3	2.0	150	98.0	153	100.
Mon State								
- Bilin Township								
- Ah lu lay vil.)	404	2 387	22	5.4)				
)					499	76.3	563	86.0
-Hninpale	250	1 356	42	16.8)				

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

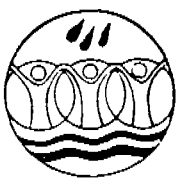
Regional Consultation on
New Approach to Sanitation:
Pokhara, Nepal: 17-19 November 1998

SEA/EH/Meet/6.2.10
07 October 1998

SRI LANKA – CASE STUDY

A Case Study

Sustainable Sanitation Promotion



Community Water Supply
and Sanitation Project
Sri Lanka

Ministry of Housing and Urban Development
"Sethsiripaya", Battaramulla – Sri Lanka

COMMUNITY WATER SUPPLY AND SANITATION PROJECT
MINISTRY OF HOUSING AND URBAN DEVELOPMENT
SRI LANKA

CASE STUDY

NEW APPROACH TO SANITATION

W. Piyasena, Project Director
Community Water Supply and Sanitation Project

GLOBAL OVERVIEW IN SANITATION

Inadequate sanitation and unhygienic drinking water are among the most serious problems facing poor people in every part of the World. Nearly two billion people do not have basic sanitation services and more than one billion people living in Peri-urban slums and rural areas lack adequate supply of water.

Each year, millions of people mostly children die from water and sanitation related diseases. Many of the world's poor suffer from ill health, lost wages, undue time spent collecting and hauling water and high prices for inferior services. Helping the poor obtain safe water and adequate sanitation is fundamental to achieving sustainable human development. Improved sanitation and water can help alleviate poverty, control the spread of diseases, and preserve the earth's fragile ecosystem.

Diarrhoeal diseases remain a leading cause of childhood morbidily and mortality and are major contributions to malnutrition throughout the developing world (WHO 1985). These diseases are frequently associated with poverty, malnutrition and infection (Weiss 1988). Field investigation estimates revealed the death toll from Diarrhoea related causes at 1.5 million per year or 4000 per day in India. (Govt. of India 1990). It is also largely attributed to, unsafe water supply, poor personal hygiene practices and insanitary involvement. (Feachan 1984 Esrey 1985, Serine 1989). Poor environmental sanitation and hygiene practices combined with limited use of safe water contribute to high Diarrhoeal incidence particularly among children. Diarrhoea related diseases are estimated to claim the lives of 3.3 million children each year (Bern 1992).

Safe water and sanitation facilities combined with Hygiene Education forms the key to the issue discussed above.

It looks at what people know, do and want and builds on positive values such as those attributed to cleanliness. Hygiene promotion develops attractive focused and feasible messages for defined populations.

SRI LANKA CONTEXT

GENERAL

Of the 1991 estimated Sri Lanka population of 17.2 million about 80% live in rural areas. The national population growth rate which has averaged 1.5% per annum between 1989-1997 is projected to grow at 1.1% per annum between 1990-2000. The ratio of rural and urban growth is not expected to change and the total population is projected to reach about 19.2 million in the year 2000 of which 15.4 million (80%) would be rural.

SYNOPSIS

The concept of "development" is not new to Sri Lanka but in practice it has taken many forms and produced uneven results. Over the last 40 years the Government of Sri Lanka (GOSL) has incorporated this concept in programmes such as community development, health care, rural development and poverty alleviation.

Sri Lanka has been historically a top performer in poverty alleviation reflected in unusually good social indicators a high standard of living relative to its levels of per capita income. The Government is currently addressing the broader issue of improving the standards of living of the disadvantaged in a sustainable manner amist resource constraints. Progress has also been made in developing and initiating implementation of an environmental action plan.

In terms of content most of these exploratory trials have focused on the economic sector, agriculture, forestry, productive infrastructure and income generation. Hardly any attention on the same scale has been given to sanitation and rural water supply sector.

Water is scarce for many people in the rural sector too. This is a special burden for the already over burdened women or girl-chid. In some parts a women spends three to four hours a day fetching water for her family. She may have to walk long distances carrying pot loads of water. In the areas of water supply sanitation & water resource protection emerging trends towards women's empowerment are a great expression of hope for women especially poor, disadvantaged rural women. More than poverty, more than national calamities, it is improper sanitation facilities or their absence which have contributed to the high degree of Diarrhoea malnutrition, and poor health in the country.

A large part of the rural population in Sri Lanka is still without access to safe and sufficient water for domestic purpose and also to proper sanitation facilities. A major portion of the overall financial resources allocated to water supply & sanitation services has been diverted to the Urban areas. As the Government of Sri Lanka is committed to provide adequate and safe water supply & sanitation facilities to all by the year 2010, steps are being taken to ensure that such facilities are provided to the rural population by focusing more attention on the needs of the rural sector.

Accordingly, the Ministry of Housing & Urban Development with a view to achieving the national goal has launched several comprehensive programmes to cover all segments of society.

A number of projects are being implemented to provide improved water supply services in the Greater Colombo area while an Island-wide programme has been launched to address the water supply & sanitation problems in medium and small towns. A nationwide programme will also be launched to address water supply & sanitation issues in rural areas on the experience gained by the Community Water Supply and Sanitation Project (CWSSP) which is being implemented now in selected three districts.

The prevailing ignorance regarding the link between hygiene and environmental sanitation has compelled governmental and other organizations to view sanitation in a new light altogether, not merely as something to do with the construction and maintenance of latrine but as a fully integrated support system to sustain practices related to hygiene, and environment.

Hygiene, for most rural & urban inhabitants is confined to the boundaries of their houses. It has very often little relevance to their surroundings.

In the country, substantial number of households do not have sanitary facilities. This is mainly due to the facts that they lack finance resources as well as the understanding of importance of having a sanitary latrines.

It is recognized that the provision of improved water supply and sanitation facilities does not, in itself, guarantee a better level of health or improved standard of living. The intended beneficiaries must also adopt new attitudes more conducive to the maintenance of clean water sources, a more healthy environmental and effective personal hygiene. Such changes have to be motivated by an improved understanding of the causes of ill health and by incubating a desire to attend these causes by effective action.

Based on the foregoing consideration a fundamental change eliciting is envisaged in the rural water supply and sanitation policy, with the aim of active community participation in planning, design, funding construction and operation and maintenance of RWSS services. Furthermore this new approach will ensure that the users are responsible for choosing the types of facilities they require, the location of those facilities, the type and amount of their contribution.

By this means, it is expected that the sanitation facilities provided to rural communities will be more acceptable, more relevant, more sustainable and more cost effective. A key factor will be that the people will perceive such facilities as belonging to them and that they will develop a real sense of ownership.

COMMUNITY WATER SUPPLY & SANITATION PROJECT (CWSSP)

Concept and Methodology

The Community Water Supply & Sanitation Project (CWSSP) is an innovative and people centered first ever effort in the rural water supply and sanitation sector implemented by the Ministry of Housing and Urban Development as a joint initiative of the Government of Sri Lanka and the World Bank 1993 aimed at providing water supply and sanitation facilities initially to a rural population of 650000 people in Badulla, Matara and Ratnapura districts.

The CWSSP attempts to develop a community based, bottom up approach and establish a methodology of implementation that will ensure effective use, sustainable maintenance and replicability of improved water & sanitation facilities at community level, assisted by Partner Organizations.

CWSSP believes in people's ability and resourcefulness to take control over their development activities through collective and organized efforts. Lack of sustainable operation and maintenance in water supply and sanitation is therefore attributed, in a broader sense to people's inability to consider critically their common interests for collective action. promotion of people into collective decision making and action through strong community based organizations (CBO) is considered to be the basic condition to ensure sustainable operation and maintenance of improved facilities.

Ownership of the facilities and of the process that proceeds it, is a further condition for the establishment of a community managed, sustainable scheme.

To meet these implicit challenges CWSSP attempts an interactive community mobilization and learning process the essence of which is a trust partnership among CBOs, Partner Organizations (POs) and CWSSP.

Project Objectives:

a. Develop systems and Institutional arrangements for community based planning, implementation, operation and maintenance of cost-effective and sustainable water supply & sanitation.:

b. Implement community based water supply schemes and sanitation programmes in rural areas, and small towns of Badulla, Matara and Ratnapura District; and

c. Prepare a follow-up project which would apply the community based approach tested and modified on the experience gained during this project implementation to be reflected in the rest of the country.

Area Served.

Population : The 1991 estimated population of the three project districts namely, Badulla, Matara & Ratnapura were 7.9, 7.1 and 9.6 millions respectively for a total population of 2,458000. About 75% of the total population is classified as rural; another 14% lives on estates: and 13% is urban. Population growth rate 1.01% for Badulla 1.04% for Matara 1.10% for Ratnapura are projected giving a total projected population in the year 2000 of 2.8 million. The distribution of population according to ethnicity show that 92% are Sinhalese 2% are Indian Tamils (living mainly on estates) 3% are Sri Lankan Tamils and 3% are Muslims. (living mainly in the towns as they are largely engaged in commercial activities).

Although the three project Districts are contiguous there are wide variations in their geology and water resources. Badulla's eastern and, northern areas are in the dry zone while the Western and Southern are in the mountain and highland plateau regions, with elevations over 1500 meters.

The average annual rainfall is about 2000 mm. Its ground and surface water resource potential is good. The district of Matara extends from the southwest coastline of Sri Lanka north to elevations about 600 meters. Water in the coastal belt becomes brackish, while in the north, surface water becomes scares during the dry season. The average annual rainfall is about 2400 mm. In Ratnapura, the central mountain range in the north of the district, with elevations over 1500 meters, provide many streams, springs and waterfalls. With the annual average rainfall of 2800 mm. Ratnapura is the most water abundant of the three districts.

Economic Situation of Three Districts.

The three project districts are predominantly agricultural. The estates are an important part of the economy and there are also large areas of paddy, coconut and spices under cultivation. There are a few industries. The predominant occupation in the towns is the public service, followed by small business.

The average annual per capita income of the three districts is SLRs 4500. However, there are wide variations among them, and also between the rural and urban areas. The district with the highest per capita income is Ratnapura followed by Matara and lastly Badulla. There is also a significant variation between the unemployment rates in the three districts. While the national rate is 13.2% the rates for Badulla Matara and Ratnapura are 8.7% 17.5% and 10.8, respectively.

Health Status

The available health statistics are based on Govt. hospital in-patient records only. Therefore, the prevalence of diseases is much higher than reported, as it is estimated that between 50% and 60% of out patient service is provided by a private sector for which no data are available. However, the number of cases reported, number of deaths (in parenthesis) is a common feature in all three districts.

Among the three districts, Matara has the best health indices which are better than the national averages. In contrast, the health indicators for Badulla and Ratnapura show a poor standard of health compared to Sri Lanka as a whole, most notably the infant mortality rate which is approximately 40% higher than the national average. This could be attributed to the less than satisfactory health and sanitary conditions in the plantation sector as the proportion of plantation population is higher in Badulla and Ratnapura compared to Matara.

PROGRAMME DEVELOPMENT

1. Sanitation

The Project Provided funds for:

a.

(i) Improved sanitation facilities in the form of grants to eligible Community Based Organizations (CBOs) on the basis of sanitation proposals from Partner Organizations (POs) and CBOs.

(ii) Project provided funds to meet the 75% of the demand for latrine construction as a grant to CBOs on the basis of Rs. 3000/- per latrine. The CBOs in turn using this grant as a revolving fund provided 75% (Rs. 2,250/-) as a grant and 25% as credit to the low income individual beneficiary household. Once they collected loan installments from the beneficiaries they utilized those funds to meet the balance 25% + demand of the country.

The average cost of a water seal pour flush lateral pit latrine is around Rs. 9,000/-

b. New and urinals latrines for 750 rural schools in the projects districts.

c. Demands for pre-schools and religious institutions.

Under the above sanitation programme it was targeted to construct 45000 latrines, in the district within the project period. This target was overshot before 6 months of ending the project with a total of 60,000 latrines. A further 30,000 is awaiting enrollment.

Hygiene Education

Among the hygiene education achievements in the project toilet construction has been the most outstanding.

The demand for more and more toilets have been the result of empowering 900 CBOs to take the hygiene message to the beneficiaries.

The schools hygiene education programme too have had its effect. School children have acted as high motivator of the peers.

Main characteristics of the methodologies of the hygiene education programme:

. Awareness creating campaigns
- School programmes
- Village participatory activities
- Provision of educational materials and training equipments
- Conduct of seminars, workshops, exhibitions and surveys etc

Those who have been trained as catalysts under this programme were community facilitators, CBO office bearer, Small group leaders, School teachers, Field Health Workers and project staff.

2. Procedure - Latrine Construction in District Office

CBO should apply to the CWSPU for approval of a grant for latrine construction after need assessment.

The CBO should provide a grants of Rs. 2250.00 and credit equal to Rs. 750/- to those individuals in the community who need to construct their latrines. The maximum projected loan amount for a new latrine would represent about one third of the cost. A grant/loan provision for upto half of the cost has been made for upgrading of existing latrines.

After the completion of latrine construction component a substantial amount of money will remain in the CBO Bank Account. These funds can be utilized for other development activities in the community as decided by the CBO.

The Management of this sanitation programme is handled by the Sanitation Committee appointed by the CBO.

Monitoring & Evaluation.

Monitoring and evaluation being a important element to ensure efficient project implementation, achieving objectives and providing a basis for replicating project experience in subsequent operations. To that end agreement was obtained at negotiations that Government of Sri Lanka and World Bank (IDA) jointly conducted formal annual reviews of Government of Sri Lanka/CWSSP's project policies, criteria and implementation progress. Indicators for monitoring and evaluation were designed to:

a. Track implementation.

b. Identify bottlenecks and recommend changes.

c. Provide Government of Sri Lanka and World Bank (IDA) with adequate information on project progress.

d. Provide information for replanning the project implementation mechanism and policies of the project.

The above monitoring indicators were mainly focused on the rate of implementation, the extent to which benefits are being realised an assessment of the cost effectiveness of interventions and a review of the suitability of project policies and operational mechanism.

The Main Lessons Learnt through the Sanitation Programme.

The project found that people in rural communities are willing to pay for improved water and sanitation services provided that they are given opportunity to participant in the decision making process and adequate choices about technical options and service levels. The project should offer a wide range of technology options and affordable service levels. It should be flexible enough to introduce additional options as needed.

At the beginning of the project, eligibility criteria was based primarily on need and technical feasibility. The outcome was those villages were often selected on the basis of factors other than demand for services. As a result, the project revised the criteria by introducing the requirement that the community must formally make a request to participate in the project. Communities must also show a willingness to pay the 66% of the total cost and the maintenance.

IMPACT

Background

"The Sri Lanka Community Water Supply and Sanitation Project is one of the few examples of a large scale World Bank supported project that has attempted to establish project rules and procedures that respond to community demand for improved services. It adopted a flexible implementation strategy by creating a learning culture within the project and by making adjustments to project rules and procedures as lessons emerged.

"It is hoped that the lessons and insights from the Sri Lanka experience will prove useful in other countries and will contribute to the global learning agenda on what works and does not work in large rural water supply and sanitation project". **Brian Grover, Program Manager, UNDP/World Bank, Water & Sanitation Program.**

- Hygiene education have opened the eyes of many people that the water they presently use gets contaminated in a routine and the highest contamination is with faecal matter.

  When this fact is established beyond doubt in the minds of the young and the old alike, they seem to develop a sense of shame and repulsion. They then call for the hastening of project activity. Some even suggest taking short cuts to installing water and sanitation facilities.

- The participatory manner in which educational picture cards are used with people, help them to identify some of the gaps in their own routine behaviours. This is an effective means in helping people mix humour with reality. Their willingness to change is almost seen in their faces.

- Toilet building in the village set up appeared to be a fashionable thing. When one family takes the lead the other seems to catch on. No one wants to be left out.

- Those families who already use unhygienic pit latrines grab the opportunity to use the subsidy scheme to install water seal latrines. They want to graduate one step upwards.

CONCLUSION

The CWSSP experience has shown that learning efforts need to be more analytic and targeted. Although structured learning includes modifying rules and procedures to improve performance, the project need to go further in analyzing the reasons why a given set of rules has or has not worked. In particular, more needs to be learned about how financial policies and cost sharing rules can further guide investment towards demand for service.

CWSSP has undergone a number of changes since it began in 1993. This has been possible because of the flexibility provided to the project staff by the government and the World Bank. The results have been encouraging. The project has moved towards offering the community services that they have selected and are willing to pay for. The projects structured learning approach will continue to provide feedback needed to further define the appropriate roles of users, the public sector, and the private sector in the delivery of sustainable rural sanitation and water supply services.

WHY IS CWSSP SANITATION PROGRAMME TRULY UNIQUE

because;

CWSSP Sanitation Programme has adopted an integrated approach towards sanitation, centered around the following objectives.

- Reducing infant mortality and water borne diseases by providing hygiene education and introducing low-cost sanitation facilities.
- Making people aware of personal hygiene; safe handling of drinking water; excreta disposal; solid and liquid waste disposal; disease transmission and the relationship between safe water, sanitation and health.
- Promoting a better and safe living environment with the help of a total sanitation package.
- Introducing appropriate low-cost technology that is affordable by and acceptable to people in rural areas.
- Developing devices to test methodology and operational strategy so as to make the programme self-sustaining and self-expanding.
- Involving the community, especially local youth, clubs and women's group, in planning construction and maintenance stages of the sanitation programme.
- Establishing inter-sectoral linkages to help promote food hygiene, ORT, nutrition education, and income generation activities among women.

Owing to the efforts of all concerned there is now a perceptible change in the attitudes of the people towards sanitation facilities. Age old practices have given way to a new thinking, resulting in more household latrines being built. For the womenfolk too it has proved to be a blessing by providing them with privacy.

Apart from the other factors, sanitation is very closely linked to concentrated poverty. It is one of the causes that aggravate the destiny of the poor. Unfortunately, the rural folk do not realise this reality unless they are mobilized and motivated.

The promotion of sanitation programme of CWSSP has not only relieved them from their economic difficulties and hardships but also improved their social status and dignity.

Furthermore, providing a healthier living environment on the project area CWSSP has also had far reaching effects on the socio-economic conditions of the community. It has helped to generate resources and employment within these villages. Local skill is used to fabricate and install the various hardware components. Thus a major part of the investment made by the villages under the CWSSP project is re-circulated within the community itself, for overall development of the project area.

In a nut-shell, following are the vital components contributed towards the fulfillment of desired goals of "SANITATION"

- Safe handling of Drinking Water.
- Safe disposal of Waste Water.
- Safe disposal of Human Excreta.
- Safe disposal of Garbage and Animal Excreta.
- Home Sanitation and Food Hygiene.
- Personal Hygiene and
- Environmental Cleanliness.

TOTAL SANITATION.

Framework for Action on new Approach to Sanitation

LADDER OF ACTION AND ELEMENTS

9. Monitor and evaluate progress
Communities should lead
Derive lessons learned
Share lessons widely

8. Implement sanitation measures
Communities facilitators remain with the process
Agencies , NGOs assist
Ensure communities lead the process

7. Plan with communities
Facilitators apply participatory methods
Involve all local partners
Ensure communities leaders lead the process

6. Train community facilitator
Train master trainers
Use participatory methods
Spread training to district and municipal levels

5. Win political and public Support for action plans
Market the plan to relevant groups
Communities help market the plan
Use community sanitation stores

4. Prioritize communities for action
Prioritize according to need
plan budget , time and staff needs
Mobilize needed resources

3. Identify high-risk communities
District/municipal-led
Involve NGO partners
Set up data bank and reporting unit

1. Develop criteria for identifying "high-risk"
Hire experts
Use existing data
Consider regional / local variations

2. Obtain policy commitment on high-risk communities
Hold national workshop
Share new sanitation concept with decision-makers
Review "national vision" for sanitation

FINAL DRAFT – THURSDAY

AWARENESS AND PLANNING PHASE

[ACTION 1: Assess and analyse the country's health and sanitation situation and prepare a status report.]

Objectives: To assess the current status of health and sanitation data as a baseline for problem identification and preparing action plan .

Use it as a advocacy tool for policy makers and politicians.

Activities: The concerned ministry/department will, with partners, assess and analyse and assess data on sanitation and sanitation related diseases.

Initiator: Concerned ministry/department with assistance of partners and external support agencies.

Timeframe: 4 months

Resources: Concerned Ministries/departments.

ACTION 1 [*2*]: Holding a national level workshop to develop or review the "national vision" for sanitation in light of new information and emphasis on high-risk communities.

Objectives: 1. To develop or review the "national vision" for sanitation, prioritizing high-risk groups [*communities]*

2. To win political commitment to the national vision for sanitation and to trying new approaches,

To [*create and*] reinforce partnerships for sanitation among concerned groups, [*stakeholders*]

3. To form a National Steering Committee to guide follow-up actions.

To share new sanitation information and approaches at national level,

~~including the concept of "ecological sanitation~~ & technologies".[*environmentally sound and sustainable sanitation]*

District & VDC level Workshop/Meeting should be orgnaised to gather information. This should lead to preparation of a draft report on National Sanitation Status prior to National Workshop.

Action: A national level workshop should be held with senior level decision-makers, of various ministries, major donors, NGOs and all other potential partners including national and district level political leaders. The need for more emphasis on sanitation, the concept of high-risk communities in the national context and new approaches to [*environmentally sound and sustainable*] sanitation (both hardware and software) needs to be

marketed to all participants at that meeting. Participants should review the existing "national vision" for sanitation and decide if any goals (e.g. coverage, proper cost of services) need to be revised or approaches modified, especially with regard to prioritizing high-risk communities.

Disseminate information on newly developed technology options.

Appropriate policy should be formulated and endorsed.

Initiator: Ministry of Health or Nodal Ministry with assistance from WHO and other ESAs.[**Lead Ministry for Sanitation]**

Timeframe: 3-6 months of close of Pokhara consultation to allow preparation of a draft National Sanitation STATUS Report (and position paper).

Resources: Persons who attended the WHO Regional Sanitation Consultation, major players and stakeholders at national level, UN agencies, and others international organization and INGOs involved in the sector, major documents on sanitation from [*the Regional Consultation*] that meeting and from elsewhere, ("Strategy on sanitation for high-risk communities," "The PHAST Step-by-step Guide," "Sanitation Promotion," "Ecological

Sanitation," **[World Health Assembly Resolution on sanitation on High Risk Communities]** and successful case studies and other relevant documents).

Note: The national vision for sanitation and strategy should be integrated with the national plan for environment and other national strategies for maternal and child health, child survival, essential drugs, [**poverty alleviation]** agricultural development, drinking water supply and any other related strategies. Different government agencies and programmes should try to have a common approach to sanitation. This common approach should be advocated primarily by the Ministry of Health/& by the Ministry in lead for Sanitation.

ACTION 2 [3]: Developing national [delete and district] [state /province and local level] criteria for identifying high-risk communities. [*draft guidelines for prioritization of high-risk communities.*]

Objective: To develop criteria for identifying high-risk communities in order to prioritize them for sanitation.

[training/orientation on concepts of sanitation targeting high risk communities and participatory approaches for state and local levels]

[Draft criteria to be developed for discussion, consideration and presentation at national workshop]

- Review and adjustment of the definition of High Risk Communities
- To form steering committee to guide consultants as well as to overview the work of consultants

Action: [Hiring consultants or universities to develop criteria] [**Assign personnel to facilitator the development of criteria]** [Imputs from sector professionals in develop criteria wing inputs form epidemiology, Statistics, Public health etc.] [To develop measurable indicators to evaluate process and outcome]

Initiator: [Ministry of Health + other] **[lead ministry for Sanitation]** [concerned Ministry/Department]

Timeframe: WITHIN 6 months [*Within 3 months of receipt of WHO guide lines.*] [3 months]

Leave time frame open, make it country specific

Resources: University professors, international experts (if needed), national experts on sanitation, public health officials, local leaders and **[health service availability and disaster prone areas]** NGOs, geographical maps of

diseases patterns, statistics on water supply and sanitation coverage, data from international organizations and major NGOs.

Note: The criteria should consider Health Status, Socio-economic, cultural, geographical and settlement pattern differences **[and endemic areas, improving where necessary capacity of health statistics system to provide community of origin of patients to prepare accurate geographic presentation of the incidence of sanitation related diseases]** within the country. Some local criteria will likely need to be developed.

ACTION 3:[4] Identifying mapping high-risk communities[at district and municipal levels] [local].

Objective: To identify high-risk [districts/] communities using criteria developed and preparation of Regional/Zonal/Local Maps of HQs.

Action: Involve all sanitation partners, including NGOs **[and the communities themselves]** , to apply criteria to locate high-risk communities and roughly estimate their needs. When needs are clear, develop workable approaches. Designate units at district and municipal levels to coordinate all data and produce reports of findings.

Use available data information make use of existing infrastructure identify the local resources and involve local leaders.

Initiator: The responsible Minsitry/Body **[Lead Ministry for Sanitation]** [Ministry concerned/department/agencies]

Timeframe: 6 months (leave the timeframe to the respective country, [*Within 3 months of National Workshop]*. [3 months]

Resources: National [state/district] and local officials, public health and development officials + organizations/institutions supported by consulting firms, universities, religious groups, NGOs, as needed,

[Note: Initiate a pilot project to gain experience and appraise policy makers for replication]

ACTION 4:[5] Making district plans for sanitation [and serving] [for] high-risk communities [and getting broad political endorsement]. [Facilitate Preparation of Sanitation Plans for High-risk Communties].

Objective: To make district plans for sanitation, prioritizing high-risk communities including time, staff, budget, monitoring and evaluation criteria.

Identify the training Institutes

[issue regulations on sanitation and hygiene as required]

[To facilitate prioritization and preparation of sanitation plans of action covering budget, monitoring, level of services and evaluation criteria etc].

Action: Using data gathered in Action 3, **[4]** form a team at the district level involving all sanitation partners and NGOs to make district plans. The

plan should prioritize communities according to need. [*The plan should include capacity building at the local level including]* training community facilitators, training masons in various technology options, a plan for social marketing to leaders and the public **[and prescribed regulations on sanitation and hygiene as required]**, and monitoring and evaluation.**[The plan should include incorporation of toilets in building codes for private houses and institutional buildings]**

The plan should also gave consideration to:

- Employment generation
- Setting up of production centres
- Setting up of sanitary marts
- Basic sanitation infrastructure requirements
- Private sector involvement

Initiator: District level and municipal health departments [*local authorities*]

[state/district and local government supported by appropriate line agencies]

Timeframe: [to be fixed by respective countries during ACTION 1]

Resources: [*Translated versions of*] various sanitation documents, all sanitation partners in the district and representatives of communities to be served, and reports from ACTION 1. **[training packages and trainers]**

ACTION 5:[6] **[Mobilize]** **[*Bring Sanitation for H.R.Cs high on the national agenda and]* political, social and financial support for the plans.**

Objective: To win *mobilize* political, financial and social support for the plans.[to *Bring Sanitation for H.R.Cs high on the national agenda*]

To win political, social, public, financial and government support and commitment for the plans.

Integrate action plan into existing state/district plan.

Action: Advocate for and conduct "social marketing of the plan" to relevant groups. Market the budget to donors, government as needed. Communities themselves, NGOs and all other sanitation partners should participate in the marketing efforts. Reach agreement to integrate the action plan into long-term and short-term Master Plan.

Resources: Social marketing articles in "Sanitation Promotion." **[to get broader support]** "Community sanitation stories," [*delete* written up by local writers and performed by local acting groups [can be a very powerful tool] **[to convince]** at both local and national level]. Sanitation status report

Use of Mass Media like Radio, T.V., Cinema hall can be helpful in Marketing.

Initiator: District level and municipal departments of health [*and local authorities*] **[supported by appropriate line agencies]** and external support agencies [National level Ministry or Steering Committee].

Timeframe: 3 months [*In parallel with Action 2 & 4* .]

Note: A powerful tool for social marketing is community sanitation stories. These are stories that indicate the needs and suffering of people in high-risk communities. They are gathered, written up by professional writers into short plays, and acted in **[religions and]** churches, [*acted in places where people gather*] community centers, and on video for use by television. Such stories should share not only the pain and suffering but also the humor in many of these situations. Community actors should be used as much as possible. Organizing a special event on sanitation, e.g. sanitation day.

[IMPLEMENTATION PHASE]

ACTION 6:[7] Training community facilitators.

Objective: To provide training to community-level facilitators through establishment of [**delete** core master] trainers at national and district levels.

Facilitate and support awareness creation and motivation

To organize and train communities, especially women to participate in planning, management, implementation and decision-making.

- to provide skills training on various sanitation facility options.
- to develop manpower at various level through mutitier training system.
- ..... and community leaders

- select key institutions for TOT, select key trainers at national and district level. District level key trainers will train (DLKT), DLKT will train Block level key traieners (BLKT), BLKT will train grass roót level worker.
- Catalyst to be trained should be added
- Selection of critera should be added.

Action: Select persons at national and district levels to be trained in [in order to form core training groups] participatory methods so that they may work with communities in selecting sanitation options and changes in hygiene behaviors. Carry out a training of trainers workshop at national level. Each master trainer will then train further [community facilitators] in districts and urban areas. and also facilitate/support awareness creation and motivation activities in the respective areas. [*The persons to be trained can be government employees but also NUO's , CBO's and staff from other organizations*] [*develop training modules for key target groups at national/district levels on participatory methods].*

Initiator: Ministry of Health [relevant ministry at national level] **[lead Ministry for Sanitation]** Intersectoral facilitator in concerned districts.

Timeframe: 6 months [*within 3 months of district plan approval]*[3 months]

Resources: "PHAST Step by step Guide", international trainers in PHAST, local experts in participatory methods.

- Training institution specilized in PHAST/Community based methodology.
- Training Institutes.
- [*locally developed training materials*] [*Note: review availability of training material before initiating action 6]*

ACTION 7:[8] Community Sanitation Action Plan [formulating community specific sanitation plants for and with communities]

Objective: To assist communities (and institutions) in making their sanitation improvement action plans and the monitoring and evaluation of those plans.

Action: Community facilitators/ trained in PHAST or other participatory methods will go to communities and take them through a participatory awareness raising process using among others the PHAST methodology. This will result in a plan that the community will be committed to carry out. **[The plan will have adequate provisions for maintenace, management and monitoring**] Outside experts **[, government agencies]**and NGOs should participate as needed but the community should feel ownership of the plan and be the final decision-makers. Environmental Sanitation Committee in each community is to be formed. Capacity building at local level is to be achieved.

Action: Facilitate formation of community-based organization. Orient and train members of the community-based organization on resource identification, problem assessment and analysis for action. Ensure participation of women. Train field functionaries on participatory approaches.

Outside experts and NGOs should participate as needed but the community should feel ownership of the plan and be the final decision-making.

Initiators: Relevant Modal Departments and Organization [*including district level and municipal authorities*] to whom the community facilitators belong

Timeframe: 1 month **[or more for]** each community **[depending on local factors]** [*Flexible time depending on the size of the Community*] [*commences immediately after training of community facilitator]*

Resources: Community facilitators trained in PHAST and other participatory methods, experts from outside the community, such as local health personnel, district and municipal water and sanitation engineers, NGOs, donors, religious groups interested in development, and community members. For alternative [*environmentally sound and sustainable]*sanitation options outside the better known ones, see relevant sections of "Ecological Sanitation" and "Sanitation Promotion."[*community based orgnaizations].*

Note: Many participatory methods exist and some countries may have adopted particular methods and are using them successfully. PHAST was developed specially for improvement of community sanitation and hygiene behaviors. It is easy to use, is especially useful for illiterate and semi-literate communities, and has been very successful in every site where it has been applied. Countries should consider trying PHAST for working with communities.[*the participatory process should not be jopardized by undue time pressures*]

ACTION 8 [9]: Implementing the community plans

Objective: To assist communities (and institutions) preparing a schedule in implementing their plans. **[including for operation, maintenance, management, and monitoring and evaluation for improvement]**

Action: Community facilitators [*should belong to and*] work with Communities to carry out their action plans. Government agencies, NGOs and other sanitation partners local authorities provide assistance as specified in the plan. Community leaders lead the process. The monitoring and evaluation plan made by the community is followed.

Initiator: **[Communities] delete** District [*and local]* level and municipal departments of health**]**, local authorities and community leaders [*an organizations].*

Timeframe: [*3 months*] 9 or more months depending on plan and size of community

Resources: The community plan, community facilitators experts inside and outside the community.

Action 9: *Community organization and capacity building*

Objectives: to organize and train communities, especially women to participate in planning, management, implementation and decision-making.

Action: Facilitate formation of community-based organization. Orient and train members of the community-based organization on resource identification, problem assessment and analysis for action. Ensure participation of women. Train field functionaries on participatory approaches.

Action: Identify persons at national, state and district levels to be trained in participatory methods so that they may work with communities in facilitating the identification of sanitation options and changes required in hygiene behaviors. Carry out a training of trainers workshop at national/state/district/ level. Each trainer will then train further in rural and urban areas and also facilitate/support

awareness creation and motivation activities in the respective areas.

Resources: "PHAST Step by step Guide" other participatory tools and modules, international trainers in PHAST, local experts in participatory methods.

ACTION 9:[10] delete Monitoring and evaluation: Learning from each community experience and giving feedback to the program [documenting and sharing of experiences].

Objective: To learn lessons from each community experience and to share those lessons with other communities and relevant agencies for future programming.

Action: Communities [*and community based organizations*] should be involved in their own monitoring and evaluation [*along with other stakeholders]*. Data from the monitoring and evaluation are carefully studied for lessons learned. These lessons are shared with other communities, national and local authorities, donors and other relevant groups so that successes are repeated and weaknesses [*removed*] strengthened. Mistakes can be identified and not repeated. Monitoring , surveillance and evaluation. Data should be recorded and documented properly.

Community facilitators stay in the community and work with them to carry out their plans. Government agencies, NGOs and other sanitation partners provide assistance as specified in the plan. Community leaders lead the process. The monitoring and evaluation plan made by the community is followed.

Initiator: District, municipal and national health authorities.[*community based organization and other stakeholders]***[lead Ministry for Sanitation][intersectoral facilitators]**

Timeframe: Regular monitoring for corrective action and for evaluation 1 month each community; central data bank, reports updated and shared every six months [As specified in community plan of action]

Resources: The community M&E plan, relevant articles in "Sanitation Promotion," relevant sections of "Hygiene Evaluation Procedures."

ACTION 10: Monitor, follow-up and take corrective action and evaluate independently

Objective: Ensure timely and effective implementation of the plans and utilization of facilities.

- Share the lessons learned with the community, other communities and district/national level future planning.

- Evaluate independently project outcome to assess impacts, long-term sustainability and replicability.

Action: Communities should be involved in their own monitoring. Data from the monitoring and evaluation are carefully studied for lessons learned. These lessons are shared with the community, other communities, national and local authorities, donors and other relevant groups so that successes are repeated , weaknesses strengthened, and corrective action can be taken.
Evaluation should be carried by an independent agency.

Initiator: Concerned district, municipal and national agencies and the communities.

Timeframe: Periodic monitoring and evaluation as per plan.

Resources: The community M&E plan, relevant articles in "Sanitation Promotion," relevant sections of "Hygiene Evaluation Procedures"; other documents; concerned agencies, experts.

D R A F T

PROPOSED CRITERIA FOR IDENTIFYING HIGHEST RISK COMMUNITIES:

CHOOSE ONE OR MORE CRITERIA

- More than 50% presence of ascaris reported by mothers to be common (Among Children)
- Epidemic or frequent occurrence of (cholera, typhoid, hepatitis, trachoma, scabies) during recent years.
- Open defecation close to unprotected water sources (wells, springs etc.)
- Open defecation apparent within the confines of the community.
- Apparently very poor hygiene levels (excreta and/or sewage in open drainage, uncollected garbage, etc.)
- Communities where childhood malnutrition is above the national average.