PROCEEDINGS OF

NATIONAL SEMINAR ON RURAL SANITATION

Organised by

RAJIV GANDHI NATIONAL DRINKING WATER MISSION

9-10 JULY, 1993, VIGYAN BHAVAN, NEW DELHI

Proceedings of the National Seminar On Rural Sanitation

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Unicef

Contents

PART- A

Foreword

It is a pleasure to present the Consolidated Proceedings of the National Seminar on Rural Sanitation, held in collaboration with UNICEF, in New Delhi on July 7/8, 1998

About 200 participants from various NGO's, Institutions, Central and State Governments attended this Seminar

The Seminar was marked by fruitful deliberations and focussed group discussions followed by cogent & practical recommendations These are summarised in this publication. The main recommendations pertain to the institutionalisation of demand driven programmes, greater beneficiary participation, reductions in subsidy, a greater extent of people's participation in the rural sanitation programmes, sectoral consistent reforms a positive attitude towards HRD and an increased emphasis on intensive IEC activities The seminar also recommended a greater thrust on R&D activities, particularly with a view to develop safe and affordable technical options for rural sanitation Policy reforms based on these recommendations have already been initiated

The proceedings are divided into several sections for easy reference Some presentations and papers could not be accommodated due to space constraint. However, they have been kept in the Mission's Documentation & Information Centre for ready reference

I would like to put on record our heartfelt gratitude to our Honourable Prime Minister Shri Atal Behari Vajpayee for sending his message

I am grateful to our Minister of State (IC) for Rural Areas and Employment Shri Baba Gouda Patil for inaugurating this Seminar

I would like to thank Dr N C Saxena, Secretary (RD) and Dr P L Sanjeeva Reddy, Secretary (REPA) for their active interest in organising and conducting this Seminar I would also put on record my appreciation for the active support of the Unicef and organisational help rendered by WAPCOS

This report was prepared with editorial assistance by Shri Ramesh Muniyappa, Consultant (Sanitation), with significant inputs from Shri Vijay Kumar, Deputy Director, Shri Harish Kumar, Deputy Director and Ms Jyotsna Iyengar, Officer-in-charge IEC The report preparation was co-ordinated by Shri Sanjay Mitra, Director

Thanks are due to all my colleagues in the Mission for making this Seminar a success.

I hope that this volume will prove useful to policy makers and field functionaries alike.

We welcome your comments

PALAT MOHANDAS

Joint Secretary & Mission Director.

Rajiv Gandhi National Drinking Water Mission.

Summary Of Group Discussions & Seminar Recommendations

The participants representing various States and Central Government, Non-Governmental, Voluntary Organisation and donor agencies were given an option to join any one of the six broadly framed groups to discuss the lacunae in the existing policies And to come out with new strategies, for effective implementation of the existing sanitation policy in the country.

The Six groups formed were as follows·

1 Demand Generation/Subsidy
2 Technology/R&D
3 Alternate Delivery Systems
4 Institutional Issues
5 School Sanitation
6 Human Resource Development

Group I: Demand Generation

This group was asked to look into the demand generation and subsidy aspect of existing sanitation programme and policies

The terms of reference were as follows.

- What is Demand – how to generate/estimate Demand in Rural Sanitation?
- Examine the existing Target oriented/Supply Driven method of providing Sanitation facilities – Positives Vs Negatives
- Stress on the Need for a Demand Driven method of providing sanitary facilities and the advantages
- For bringing about a change from a supply driven to a Demand driven method of providing sanitary facilities – the required interventions at the National State & Local level
- Examine the role of subsidy in a demand-oriented scenario
- Assess the need for communication materials and define the role of media
- Carefully review the mission's IEC strategy and develop a broad framework for covering all districts in the country thru "campaign approach within a specified time-frame.
- Examine the role of NGO's

The Group recommended the following

1 'Willingness to share' is the expression of effective demand.

2. IEC should be handled by NGO's at State and local level
3 Guidelines at Centre should be flexible enough to accommodate State & local level innovations and approach
4. Time frame for with drawing subsidy – plan to move on to a no-subsidy regime in 5-10 years.
5. IEC intervention should be strong and sustained

However, later in the open house, it was agreed that subsidy should be substantially reduced and given at a flat rate only to below poverty line category and phased out in ten years. It also agreed that demand for latrines should be estimated on the basis of willingness to share costs.
The house also endorsed that motivating people was more important than providing subsidy hence stressed that greater emphasis should be given to

IEC in bringing about the change in behaviour pattern

GROUP II: Technology

This group was asked to look into the technological aspects in the existing sanitation programmes and policies

The terms of reference were as follows.

- How can the recommendations of the National Expert Committee on "Technological options for implementations of rural sanitation programme in India" be applied more effectively,
- To what extent the "Sanitation Upgradation" approach is important in achieving the desired level of sanitation coverage
- What are the resources which can be mobilised at the National/State/District/Panchayat/Village levels for promoting various need-base technological options including "Sanitation Upgradation" approach to support 'People's centred and people's oriented initiatives',
- To suggest an effective quality assurance mechanism for Rural Sanitation Programmes,
- Identify requirements of R & D input in the rural sanitation sector

The Group recommended the following.

1 Atleast 3-4 models of pour flush type should be advocated and promoted in each state depending upon the geographical conditions

2 The approach of vertical Upgradation should be adopted and encouraged

3 NGO's Engineering Colleges and Polytechnics should be encouraged to set up technical back-up units to assist panchayats in propagating and promoting different technological options

4 Proper waste disposal system should be promoted as an integral part of rural sanitation

5 Encourage further research on aerobic and vermi –Compost methods for solid waste management

In addition to the above, the open house endorsed that Rajiv Gandhi National Drinking Water Mission should stress more on Research and Design aspect of toilets and models, as most of the existing type were suitable to urban areas rather than rural areas, it also agreed to evolve National/State Quality Assurance norms The house also stressed that Mission should take up IEC in big way to popularise and educate people to use non-ceramic type of pans, as they were not being accepted by rural users

It was also decided to encourage entrepreneurs and Youth Clubs in villages to manufacture, construct and promote Bio-gas plants and toilet products by involving public through contributions in kind or cash as people were willing to share the cost

Group III: Alternative Delivery Systems

This Group was asked to look into the alternative delivery systems available for

implementation of existing sanitation policies and programmes.

The terms of reference were as follows.

- Identify the different service delivery systems which exist and which need to be set up for the country to meet the demand for pans, traps and other materials for construction of latrines and other sanitation facilities in order to achieve the goal of 75% sanitation coverage by 2002.
- What mechanisms should be set up to ensure that the concepts of RSM and Production Centre are adequately popularised and that help is extended to private entrepreneurs and small-scale businessmen who are attracted towards the idea of setting up such establishment on their own
- How can the reach of RSMs be expanded to cover the population living in rural areas? Review different existing outlets for goods/commodities under different Ministries/schemes/Co-operatives at National and State levels and work out modalities by which sanitation coverage can be increase through use of such outlets.
- Review all bankable schemes through which loans are provided to women/households in rural areas and define the steps to be taken to encourage banks to provide credits/loan facilities for improvement of sanitary conditions Suggest ways and means which repayment can increase rates to the banks to the maximum.
- Review the present support being extended to NGOs/private entrepreneurs by Central/State Governments and other agencies for establishment to RSMs and Production centres Discuss the need to revise the norms and define the mechanics by which resources can be mobilised for such establishments
- Discuss ways in which demand can be generate to sustain the existing RSM/Production centres and the ones proposed to be established
- Suggest ways in which households can be mobilised/motivated to go in for sanitation facilities without waiting for Government subsidy
- How can network of RSMs be promoted?

The group recommended the following.

1 Public-Private partnership (PPP) and a combination of various alternative delivery systems for improving demands for construction of latrines and other sanitary facilities

2 Identify reputed and dedicated NGO's for promoting and co-ordinating RSM's and Production Centres, through entrepreneurs

3 Involve Panchayati Raj Institutions at district and sub-district levels to promote and popularise RSM's and Production Centres (PC's)

4 Decentralised production and delivery set up generates employment, income and easily

accessible to rural households, hence RSM should come up in decentralised sector

In addition to the above, it was decided in the open house, that Guidelines should be made flexible so as to allow the operation of all possible alternate delivery systems.

It was also decided that the Mission would recommend to the Government to set up credit windows to help entrepreneurs to set up RSM's and would educate and promote RSM's through intensive IEC campaigns

GROUP IV: Institutional Issues.

This group was asked to look into the existing Institutions and suggest as to how best it could be utilised in Promoting sanitation policies and programmes through it

The term of reference to this group was as follows.

- Need of formation of "State Sanitation Missions" it's constitution, composition and functions. Examine need for National body.
- Identify institutional linkage required for successful rural sanitation programme
- Suggest change in the policy environment and sectoral reforms at the National and State level to accommodate total community participation based on demand driven approach.
- Clearly define the role of each of the institutions involved in the programme viz, department of RD, PRI, PHE, Health, Education Social Welfare etc including Private and NGO's/Vos
- Define the methodology for developing close linkage. Co-operation and co-ordination among the department/organisation
- Define role of NGO/VO in generating community awareness and effective participation in the programme
- Suggest linkage of sanitation programme under IAY, JRY, HNP, CRSP and other ESAs
- Suggest means of involving private sector involvement in the delivery system of rural sanitation
- Formation of National State and District Level Co-ordinator Committees for advisory role and initiate monitoring & evaluation of the programme.

The Group recommended the following

1. Implementation of sanitation policies at the local level would be primarily the responsibility of Panchayati Raj Institutions
2. RGNDWM should co-ordinate the programmes of all related Govt. departments, NGO's and Private Organisations
3. Mission should utilise MIS with suitable indicators to evaluate, progress made while evaluating programme impact

The open house also decided that the existing name of the Mission to be changed to Rajiv Gandhi National Drinking Water and Sanitation Mission.

GROUP V: School Sanitation

This group was asked to look into the aspects of following a School Sanitation Programme

The term of reference to this group was as follows.

- Define the short-term and long-term objectives of a School Sanitation Programme
- Problems that are to be encountered in the implementation of school sanitation ways & means to over come the problems
- Define the time frame for covering all Primary, Middle and high Schools in the Country with Water and Sanitation facilities What are some of the other institutional arrangements, which are essential for a successful School Sanitation in the country?
- Suggest modalities for successful implementation of the programme
- Suggest modalities for 'institutionalising' sanitation at National, State and District levels in terms of modifying school curriculum and incorporating 'sanitation' in the training of teachers
- Review the extent to which hygiene education has been included in the day to day leaching by schools teachers, especially in Primary schools Suggest way in which teachers can be motivated to ensure that hygiene education is promoted as an important component of the day's routine activities How can Hygiene education be made more interesting to children in Primary Schools so that the desired behavioural changes are brought about in them?
- Define the role to be played by schools, students, teachers, parents, Panchayats and other members of the community in promoting Sanitation both in schools and through schools in the community and suggest ways in which the different categories mentioned can be made aware of their roles
- Identify appropriate hygiene messages class-wise for Primary and Middle school children, which need to be promoted and assess the need for development of appropriate IEC materials for schools, school children and teachers.
- What is the nature of Inter-sectoral co-ordination required at National, State and District levels for initiating a School Sanitation Programme?
- Identify ways in which resources (both human and financial) can be mobilised for the sustainability of the School Sanitation Programme in the country.
- Suggest way in which the School Sanitation Programme can be linked up with the Technology Mission's IEC strategy

The Group recommended the following.

1 To cover 25% of Schools in the Country with a comprehensive hygiene and sanitation programme by the end of Ninth Plan

2 All schools in the country to be covered with hygiene and sanitation programme including provision of facilities by 2012

3 Mission to Co-ordinate in developing appropriate development material

4 NGO's and other philanthropic organisations should be co-opted in the programme.

The house also agreed that

1 Schools to be classified as high priority targets for IEC Campaign

2 All primary schools in the country should have latrines by the end of Ninth Plan

3 Mission to request Prime Minister and Chief Ministers to write to MP's and MLA's to use their discretionary development funds for construction of toilets in schools

4 Mission to initiate steps, for including sanitation in School Curriculum

GROUP VI: HRD

This group was asked to look into how Human Resources Development could take place to increase the skills of people involved in implementation of various sanitation policies and programmes

The term of reference to this group was as follows.

- What is the "State of Art – the scope, advantages, importance of HRD activities and its need in the Sanitation Sector?
- Review with special reference to the existing HRD Programmes being implemented in the country and with reference to its objective Vs achievements made so far
- Explore the scope for Institutionalising HRD activities at Block/Gram Panchayat level – the need/scope for setting up of HRD Institutions in every State
- The HRD needs for the various levels from grass root to policy makers and definition of the role of such functionaries and demarcation of job responsibilities

The group recommended the following.

1 The providers for sanitation facilities should be trained in low cost sanitation

2 Sanitation programme should be given high priority amongst the providers.

3 Government should provide training for change agents to motivate people

In addition the house also recommended that

1 Ministers, Secretaries, MP's & MLA's should be sensitised with importance of Sanitation

2 Update knowledge of village masons thru training

3 Workshops for PHED engineers to keep them in tune with latest technology available for low cost sanitation

4 Raise budgetary allocations for IEC/HRD

5 Involve private sector for village adoption and development

After detailed deliberations, the National Seminar on Rural Sanitation recommended the following.

I Demand & Subsidy

- Demand for latrines should be estimated on the basis of willingness to share in costs
- Subsidy on latrine should be substantially reduced and given at a flat rate only to BPL categories It should be completely phased out in ten years

II Institutional Issues

- Set up Sanitation Mission in GOI and States
- PRIs to manage sanitation programme at grassroot level
- State Government should have the flexibility to plan state specific strategies
- Government institutions do not have comparative advantage in conducting IEC campaigns This should be entrusted to the private sector and NGOs.

III Technology

- Explore additional models to supplement information given in the Handbook on Technological Options – with particular emphasis on waterlogged/rocky areas and the peculiar requirements of the islands
- "Vertical Upgradation" strongly recommended – from direct pit to offset to single – pit and two-pit
- Evolve National/State Quality Assurance Norms –
- Enhance R&D Emphasise biological toilets, aerobic compost and low-cost Vermicompost

IV Alternative Delivery Systems

- Guidelines should be made flexible so as to allow the operation of all possible alternate delivery systems – Govt NGOs, DWCRA Groups, RSMs, PRIs, PDS system, Co-operatives
- Government should take the lead in establishing an alternate delivery system

  Use NGOs to encourage entrepreneurs in setting up RSMs/PCs – one RSM/block and One PC/district – should be promoted by 2002

VI Schools

- Schools to be classified as high priority targets for IEC campaigns
- All primary schools in the country to have latrines by the end of 9th Plan
- MP/MLA discretionary funds to be leveraged for funding 'Latrine in School' campaign Chief Ministers could write letter to all MPs/MLAs in this regard
- Curriculum to include sanitation.

VII HRD

- Ministers/Secretaries in States need to be sensitised to the importance of sanitation
- PHED engineers to be made aware that low cost technology options are available and viable
- Update knowledge and skills of masons at village
- Raise budgetary allocation, particularly on or IEC/HRD
- Involve private sector, banks, co-operatives etc and encourage village adoption

MESSAGE

I am very happy to learn that the National Seminar on Rural Sanitation is being organised during July 9-10, 1998 in New Delhi

Our National Agenda for Governance envisages "Health for All" Sanitation, particularly rural sanitation, will play a very vital role in achieving this objective

The lack of sanitation puts all of us at risk and not only the deprived It increases exposure to diseases, paves the way for outbreak of epidemics, and the whole society, the rich and the poor alike, will be made to pay a very heavy price More importantly, environmental sanitation is a basic human right and absolutely essential for maintaining human dignity India is committed to children's rights and sanitation in schools where the children are expected to spend a significant proportion of the day assumes greater criticality in fulfilling our commitments in this regard There is also the question of our image. Open defecation and generally poor environmental sanitation portrays the picture of an uncaring society This has to be corrected at the earliest, through a national effort, involving government agencies, social organisations and also responsible citizenry

I call upon all those concerned to pool their efforts and resources to achieve a decent percentage of sanitation coverage by the end of the Ninth Five-Year Plan I would like to convey my appreciation to the Minister for Rural Areas & Employment and his team for organising this seminar and extend my best wishes for its success

Atal Behari Vajpyee

Inaugural Address

By Shri Babagouda Patil, Union Minister Of State (IC),Rural Areas And Employment

It is indeed my pleasure inaugurating the Second National Seminar on Rural Sanitation My warm welcome to all of you I am sure we can collectively think about and act in making the sanitation programmes effective tools for improving the quality of rural life It is indeed the right time after six long years since the first National Seminar to effect necessary thrush and direction in this sector

It is common knowledge that inadequate sanitation facilities to the rural people contribute to the increased incidence of water-borne diseases such as diarrhoea. This situation is brought about because of our tendency to treat water supply and sanitation programmes separately. Admittedly, the CRSP and MNP have to a large extent, raised the level of awareness and coverage of sanitation in rural areas by allowing private initiative that made salutary inroads in the BPL segment.

While, it is now imperative that we put the experiences of state governments, NGOs and other welfare conscious individuals to best use by integrating water supply and sanitation programme, we also need to plug gaps in the present sanitation coverage so that a holistic, environment friendly sanitation package, starting from personal hygiene to safe disposal of waste water is provided

Towards this end, the findings of the nation-wide survey conducted in 74 districts across the country by the Indian Institute of Mass Communication, would throw some useful data, such as, only 20% of the rural households have private latrines, not all of them being safe Of such households, 55% were self-motivated on account of convenience and privacy, subsidy was causal factor for only 2% Affordability was cited as the main cause by 80% of those who did not have latrines, while 7% attributed to lack of material availability and knowledge Most importantly more than 60% were willing to pay for getting sanitation facilities, 19% of them were willing to pay more than Rs 500 This information should be used to evolve better sanitation coverage strategies in the 9th Plan period

It is here, I feel that the gram panchayats at the village level, taluk panchayats at the intermediary level and Zilla Panchayats at the district level can act as effective focal points for popularly propagating and qualitatively monitoring the sanitation programmes. Then only the programmes achieve their objectives in the true spirit and do not merely become target-attaining tools

School sanitation programmes are close to my heart To ensure that our children enjoy higher standards of health, safe drinking water and environment-friendly sanitation as enshrined in the Convention on the Right of the Child and in the Agenda 21 of the Rio Earth Summit, we need to accord highest priority to this programme, earmark additional resources and by involving teachers, parents and students. I am sure this National Seminar would deliberate upon this and I hope the concerned agencies – this Ministry, Department of Education along with those involved in this sector would arrive at an actionable set of guidelines

Lastly, we need to explore alternative methods of low cost technology in providing sanitary facilities that are socially and environmentally acceptable Once people are convinced about the need to have sanitary facilities, the programme becomes successful and sustainable. With a collective thinking based on field feedback, the Seminar should evolve wide range of options well designed to suit specific needs of different areas Consequently, the policy and approaches can be relevantly modified to accommodate growing demands

I hope this National Seminar would dwell on all these aspects of sanitation and adopt realistic resolutions for early implementation

I wish the Seminar every success

Welcome Address

Dr. N.C.Saxena, Secretary (Rural Development)

On behalf of the Ministry of Rural Areas & Employment and on behalf of the Rajiv Gandhi National Drinking Water Mission it gives me great pleasure to welcome all of you to this National Seminar on Rural Sanitation I am indeed very grateful to all the researchers, academicians, NGO(s), State Government representatives, Government of India Officers who have come here to help us and give us advice on this important programme of Rural Sanitation. I am particularly grateful to our Minister, who is very busy today and so I am really very grateful that you could find time from your busy schedule to be here with no, although for a short while

As is very well known Rural Sanitation Programmes are poor and distant cousins to other development programmes, both in terms of attention that they command and the resources, which are allocated to these programmes. In other Rural Development Programmes when the state Government spend one rupee, Govt of India gives Four rupees but, in this programme when state Govt spend one rupees, Govt of India gives only sixty six paise or sixty paise So, therefore, I think Govt , of India also, perhaps if there are representatives from Planning Commission, they would like to consider giving this programme a higher priority Also when we do PRA exercises in the village and ask for people's priorities, generally we only ask meh and therefore they also give very low priority to Sanitation because of cultural habits Priorities of women should be taken into account when we design our Rural Development programmes And it's a fact that we spend the people in the rural areas spend a lot of money in treatment of diseases, infact it has been calculated that roughly 10,000 00 crores is spent every year which could be prevented if Sanitation Programmes and Sanitation facilities are improved

The subsidy element may be very high in this programme but that has also not helped, infact attracts contractors and the entire programme becomes contractor driven rather than depending upon people's choices, and affordability, space and awareness which I think determine whether the programme would succeed or not Therefore, we have now come to a stage where this programme needs to be radically overhauled and we are in the process of preparing a new design on Rural Sanitation Programmes which has been circulated and we would be indeed looking forward to your suggestions, to your comments, your ideas and yours views as to how this programme can be improved and what the suggestions that we have given in the paper - they need to be critically evaluated by all of you and we would look forward to the deliberations of this workshop And I hoe you would be very frank and give your advice to us as in what direction we should take this programme forward

With these words I again/once again, I am grateful to all to you, in particular to our Minister, who has been very kind and has been able to find time to be with us this morning

Thank You

Address by

Ms. Razia Ismail,
Acting Officer-in-Charge, UNICEF (India-Country Office)

Hon'ble Minister of State, Mr Baba Gouda Patil, Hon'ble Secretaries to the Govt of India, Officials of the Rajiv Gandhi Drinking Water Mission, distinguished delegates bodies and gentlemen - its my privilege, on behalf of UNICEF to share with you a few thoughts, and I hope one or two provocative ones among them, on this issue that is before this National Seminar on Rural Sanitation

We come here to a seminar of this kind challenged with making a linkage between the provision of infrastructure and the changing of people's minds The underlying issue in protective health and all that goes into it is not really in bricks and mortar, and we know that It is in our minds and I recall a guru of mine in UNICEF, some years ago, used to say - "What are the main points in Sanitation" - and he would hold up, his hands and say - "this is what it is, what these fingers do, what this hand does and where is the centre of change - it is here (the mind)"

For us, who are adults, in looking at the protection of children protective hygiene, which is the pivotal factor in ensuring sanitation, is an issue before this seminar - we are looking at better infrastructure, the provision of services that people clearly want but we are also looking at a challenge in changing habits A child learns from those around her or him, a community learns through its own experience but in our minds the linkage of washing our hands such a simple practice, and protecting our lives is perhaps not clearly enough understood Somewhere in the agenda for this seminar there must be that piece of (I suppose we call it software now) that piece of the transmission of ideas which would protect the lives of children and thus protect their right to life We know how closely malnutrition and poor health are tied to the issue of sanitation and hygiene. Perhaps we need to always use sanitation and hygiene as an aired set of words because sanitation is liked to habits

We know that in India we have serious difficulties with water related diseases but some of them are also either prevented or caused by what we do with our hands, what we do when we handle food, what we do in the whole exercise of defecation disposal of waste and excreta and what we do there after There is a lesson perhaps suitable for every schoolroom, - 'wash yours hands after defecation' tied to that is 'Wash, your hands before handling food' These things sound very simplistic - but possibly the keys are there

In terms of infrastructure very interesting opportunities have arise with the Rural Sanitary Marts They resent ideas and possibilities and new technologies to the people. I am sure that we in UNICEF would continue our support and our encouragement to the community education that opens up with the provision of those facilities.

We all know the stories about how very good latrines were constructed and then used to store grain - we know that but that doesn't have to be always the cause and effect, always be the end of the story. If education goes along side there is a breakthrough waiting to happen and if we choose to channel some of that education through the children, whom we seek to protect, perhaps we have also another potential set of messengers.

In the army of people living in the countryside we have panchayat members, we have youth services members, we have frontline workers, we have the children and we have women among all of those - women

and girls Perhaps, the Hon'ble Minister of State we would look at communication as a very key component of what we are seeking to do to change the sanitation picture in the countryside

Its most encouraging to know that there are already enough expression of interest in the public, that the fact finding surveys are discovering, that people are prepared to pay so, that wish for facilities is strong enough perhaps but the habits that go alongside are sometimes not understood One feels that the facility will suffice and it does not

So, I would just-like to insert that appeal for communication as one of the emphasis that might be considered by this seminar and look at how through children, through teachers through workers through our own functionaries in Govt. The highlighting of the hygiene habits becomes a key element of what we want to bring forward and how we want to make change something that comes from the people's own mind and then directs what they do with their hands

Thank you very much

Overview

Two papers are included in this section. The authors share their experiences in implementing the rural sanitation policies of the government. They also identify the various key issues that have to be considered for making these programmes successful.

The first paper by Palat Mohandas highlights the history of the sanitation programmes in the country. It also emphasises the achievements of the Rajiv Gandhi National Drinking Water Mission, along with the progress made by various states and Union Territories in the country.

Further, the paper identifies the reasons for slow progress in sanitation programme and suggests a new component on Schools Sanitation. It also envisages the use of upto 50% of CRSP funds as `seed money' to propagate low cost sanitation, greater private sector participation and the concept of " Vertical Upgradation" .

In the second paper Sanjay Mitra, introduces the subject, provides an assessment of the present coverage status and the 9th plan targets. He tries to identify the various factors responsible for hampering the implementation of the rural sanitation programme While doing so, the paper also highlights the policy implications arising out of the foregoing analysis and proposes changes that have to be made to make RSP successful.

Review Of The Rural Sanitation Programme

Palat Mohandas , Joint Secretary (TM)

Introduction.

The concept of sanitation was earlier limited to disposal of human excreta by cesspools, open ditches, pit latrines, bucket system etc 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, inadequacy in the provision of safe drinking water, improper disposal of human excreta solid and liquid wastes leading to unfavourable environmental condition and lack of personal and food hygiene have been the major causes of many killer diseases in many countries, including India The sanitation coverage in India is one of the lowest in the world-at par with Niger and Afghanistan and possibly lower than Bangladesh

Background And Progress In Sanitation

Although the concept of sanitation has undergone qualitative changes during the years, there has been hardly any change in the sanitary conditions in the villages in India During pre-independence days, some efforts were made to improve the sanitary condition in the villages Since then, sanitation has made a slow progress compared to Rural Water Supply Programme

In 1954, Sanitation Programme was introduced in the Health Sector of the Government of India. An International Water Supply and Sanitation Decade programme was launched during 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 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 SC/ST population under IAY House Scheme, and to provide 2,50,000 additional latrines to health sub-centres, schools, Panchayat ghars and anganwadis etc , under NREP and RLEGP. During 1987, Rural Sanitation Programme was included in the State Sector under MNP

Under the Central Rural Sanitation Programme (CRSP) which was launched in 1986, it was decided to provide sanitary latrines to SC/ST families, people below poverty line with 100% subsidy and general public with subsidy as applicable under the State Government The Central assistance under the programme was subject to matching provisions/expenditure by the State Governments The criter for allocation of funds to States/UTs which was linked to the criteria for allocation of funds under ARWSP provided for weightage to rural population (50%), areas (20%), incidence of poverty (20%) and spill-over problem villages (10%) It was decided to construct 'Two Pit Pour flush Water Seal Latrines' at an estimated cost of about Rs.1200 per latrine The cost of latrine, however, varied from State to State

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 adopted 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 SC/ST was set at 5% 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 guideline on CRSP was revised in 1993.

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 interalia 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

This was the history and Evolution of the Centrally Sponsored Rural Sanitation Programme

Targets And Achievements

By the end of the VII Plan, 4,50,888 household latrines were constructed in India against a target of 5,32,269 During the five years of VII Plan and two Annual Plan, a financial outlay of about Rs 317 93

crore was incurred, under the programmes of Central and State Governments By the end of 31 3 1992, it was reported that about 2 73% of rural population were provided with sanitary latrines through Government efforts against the desired goal of covering 25% of the rural population by 1991 During the VII Plan period , 33,43 lakh latrines were constructed against a target of 32 07 lakh units, out of financial outlay of Rs 737 93 crore In fact there was a significant step up in physical progress during the 8th plan as compared to all the previous plans put together During the VIII Plan period, U P ranked first in so far as physical coverage is concerned, with 455906 toilets to their credit followed by Maharashtra, A.P., H P and Karnataka The coverage is comparatively low in some states

On the financial side, even though the all India expenditure during VIII Plan is more than the actual allocation under CRSP, certain States like Bihar, Assam, Nagaland and Punjab have drawn less than what has been allocated to them Almost all States except Bihar, Rajasthan have made matching or excess provision under MNP during VII Plan, which is worth mentioning On the expenditure part also, the MNP had exceeding CRSP during VIII Plan

The per unit cost has gone from Rs 1300 to Rs 1800 over a period of 10 years. West Bengal and Rajasthan deserve appreciation for their low per unit cost i e Rs 300 in the case of West Bengal and Rs 500 in respect of Rajasthan Bihar has the highest per unit cost Rs 20100 followed by Arunachal Pradesh Rs 10000

Despite the acceleration in physical implementation the total sanitation coverage stands at around 16-20% of the total rural households Each year, around 10-12 lakh toilets are being added through CRSP and MNP and under all other Government intervention put together, though firm figures are not available for the latter. A very significant feature of the progress in Sanitation coverage is that a very large proportion is due to private initiative, completely unaided by Government intervention of any kind

The Mission took opportunity to review the status reports of various States/UTs.

Andhra Pradesh deserves appreciation for their commendable work in the Rural Sanitation Sector especially for creating awareness among the rural masses through their Janmabhoomi Programme It is also worth mentioning that Andhra Pradesh has taken a serious note of the "Vertical Upgradation" concept Based on the affordability, if a family is not in a position to invest the entire cost, it can start with a single pit and then switch over to double pit latrines As the financial position increases, the toilet could be upgraded to the highest order While the aspiration of construction of a two pit latrine is often just a dream for a family at the beginning due to a lack of funds, the distribution of investment over a period of time can make that dream come true without too much effort The Mission has brought out a Report on the

Technological Options The interested families can select the technology , which suits them best instead of adopting any particular design

It is indeed laudable that Maharashtra has constructed a record number, of 461048 toilets during 1997-98, but the State is providing subsidy to all the households under the State sponsored Gramsafai. Himachal Pradesh has increased the subsidy from Rs 1200/- to Rs 1700/- in the case of general, APL categories since 1996-97 Given our precarious financial position, the practice of subsidising the non-poor needs a re look

A number of studies including the very comprehensive, base line survey by the IIMC show that 55% of those private latrines were self-motivated Only 2% of the respondents claimed the existence of subsidy as the major motivating factor, while 54% claimed to have gone in for sanitary latrines due to convenience and privacy The study also shows that 51% of the beneficiaries are willing to spend upto Rs 1000/- to acquire sanitary toilets

Perhaps, Tamilnadu is one of the few States, who have taken school sanitation in its right spirit The Tenth Finance Commission has also recommended that the primary schools should be provided with the basic amenities like Drinking Water and toilet facility I would like to draw specific attention towards school sanitation programme, which was somewhat, neglected in the past The awareness generation and the dissemination of information on the need and relevance of safe sanitation facilities will be most effective if we could generate requisite interest among the teachers of schools and children's

The RSM strategy in UP is contributing significantly towards promoting sanitation and hygiene awareness in Uttar Pradesh and has tremendous potential for expansion to cater to the needs of the communities. The CDD-WATSON strategy adopted by UNICEF has made significant impact in the Phulbani and Ganjam District in Orissa District Administration in both the Districts has become responsive to diarrhoeal morbidity and mortality In general there is a reduction in diarrhoeal diseases as apparent from the PHC Reports

Now, I would like to touch upon the merit of few models, which would assist in evolving appropriate future strategies in this sector The model evolved by the Lok Shiksha Parishad Ramakrishna Mission in Midnapore District of West Bengal is based on the locally available low cost technology and materials to suit the various income groups with unit costs ranging from Rs 300/- to Rs 2000/- This model has been replicated in some District of West Bengal and other areas, like Kamrup District of Assam

The Sulabh Sauchalaya Model revolves round motivation, promotion, education and community participation A number of designs for latrines based on use of local material and emphasis on functional

aspects are available An appropriate delivery system ensures adequate software support and community participation

The model evolved by Environmental Sanitation Institute (Safai Vidyalaya) Ahmedabad provides an example of generation of felt need, peoples participation, simple yet appropriate technology before launching on the hardware programme of construction of latrines

I have referred only to some of the well-known experiments But I am sure that there must be many more such models based on the efforts of activists, innovators, social organisations and well-motivated Government functionaries in various parts of the country I must also make a specific mention of the commendable role of UNICEF who have made a distinct contribution in this field which is well known to all of us.

A number of field studies, the experience of implementation of various government programmes and the feed back from donor organisations have shown that the main reasons for slow progress in the sanitation programme were inadequacies of the subsidy-driven programme, over-emphasis on a single construction model, absence of priorities, poor utilisation of assets, lack of correct attitudes, perception and knowledge etc

A comprehensive policy review is contemplated We envisage the use of upto 50% of CRSP funds as "seed money" to propagate low cost sanitation, based on felt needs, greater private sector involvement and the "vertical upgradation" concept The subsidy structure would be changed to target the poorer segments and to ensure that the States face the right incentives to explore low cost sanitation through people's participation A new component on school sanitation, a very vital component of CRSP, is proposed to be introduced , since the school children have potential of acting as the most persuasive advocates for the benefit of sanitation in their own households Increased technological options would also pave way for increased acceptance and coverage.

I have tried to give a brief picture of the Rural Sanitation Programme The base-paper, which has already been circulated to all of you, elaborates my theme and gives projections, options etc It may be useful to derive, from what has been stated above, some basic parameters for successful implementation of the Rural Sanitation Programme The strategy in the IX Plan should be so evolved to embark on a major policy shift – away from the existing low subsidy to a no-subsidy regime, with special emphasis on the creation of demand for sanitation services, increased awareness generation, a much higher degree of beneficiary participation and the institution of an alternative delivery mechanism through rural sanitation marts and production centres

Rural Sanitation In India – Issues And Options

Sanjay Mitra

This paper has 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 Programme (RSP) using field experience gathered during the past five years and tries to identify the constraints hampering RSP 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

Introduction

1 1 Rural sanitation figures prominently in the National Agenda for Governance: At present, the extent of sanitation coverage in India is around 16% 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 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)[1] 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 6700 crore 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 10,000 crore 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

1 2 Though Cabinet approval was accorded to the Centrally Sponsored Rural Sanitation Programme(CRSP) in 1986, real work in the sector began in 1993 The 1993 programme envisaged an integrated approach to rural sanitation and interalia 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 35:35:40 basis respectively by the centre, state and the beneficiaries. Total Sanitation Plans for individual, "model" villages had 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

Substantial progress has been made since 1993 Around 40 lakh sanitary toilets have been constructed under CRSP and Minimum Need Programme (MNP) The total CRSP outlay during the 8th Plan was Rs.230 crore, the MNP outlay, Rs.507 crore and the total expenditure was Rs 640 20 crore 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

1 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 &

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[1] *Baseline Survey, Indian Institute of Mass Communication, New Delhi, 1996*

Sanitation (WG) had estimated[2] that around 25%[3] of the rural population(67 48 crore approx) had access to properly constructed sanitary latrines, equivalent to 1697 lakh rural population (RP) or 300 lakh 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 1082 lakh rural population in 192 lakh 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

1 4 9th Plan targets:

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 (238 lakh RHH through Government and 401 lakh RHH though non-government/private initiative). The extent of the government coverage required was estimated at 1189 lakh RP[4]

The corresponding financial outlay for the entire sanitation sector was estimated at Rs.6300 crore. **Table2** gives the detailed break-up

To re-state, sanitation coverage was projected to rise from 300 lakh RHH(1697 lakh RP) to 1098 lakh RHH(5492 lakh RP) by 2002. This implies an incremental increase of 3796 lakh RP, corresponding to 759 lakh RHH[5]

The DNP Document does not lay down any targets but calls for an immediate shift towards a "demand-driven" model

1 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 database on sanitation coverage However, it should be pointed out that these estimates refer 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 lakh)

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 chanted n demographic indices and rural poverty

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[2]In 1997

[3]This has also been used in UNICEF documents

[4]Based on a projected population of 699 3 million for 1996.

[5]RHH size taken at 5 in 2002 instead of 5 67 for the present

1 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[6] 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 is thus(138-48)*2000=Rs 1800 crore 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.3000 crore

Adding on an additional of Rs.750 crore from IAY,[7] the requirement of government funds would be approximately Rs 3750 crore The total sectoral requirement is much larger around(1098-191)*2000=Rs 18000 crore

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

1 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[8] After taking into account all these factors it would be reasonable to peg the financial requirements for the government at Rs 3750 crore 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

2.1 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.18000 crore

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.

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[6] *Council for Advancement of people's Action and Rural Technology*

[7] *Total IAY outlay is Rs 25700 crore for 170 lakh units Assume further that 10% of IAY would have toilets*

[8] *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)*

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 flexibility 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 evaluation s have since shown that preferences, affordability and space considerations are very important determinants of any decision to adopt proper sanitation.

(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.8000 crore.

(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, interalia due to lack of awareness, poor construction standards, emphasis on standardised designs without attention to local specificity's 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 45-50 lakh 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 shows 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, 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 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.100 crore per annum) are insufficient They do not even match the MNP provisions by the States(Rs.200 crore 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 50-60 lakh rural households, under all Government Programme (CRSP, IAY, etc) and maximum coverage levels would bot 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.6300 crore aprox.) 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 3750 crore In case the projections, particularly those regarding poverty, happen to slip, the requirements are likely to be much higher, around Rs 8000 crore, by way of pure subsidy
The total 8th Plan outlay for CRSP and MNP was Rs.737 crore. Thus, a 500% increase in outlay would be required if a 75% coverage level were to be achieved

Fund 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 Tamilnadu, Mysore in Karnataka Allahabad in Uttar Pradesh.)

Macro-level constraints

The foremost constraint relates to resource availability. Even if we assume that sanitation sector finally gets Rs 1000 crore [9] during the 9th Plan, a jump from the 8th Plan outlay of Rs.674 crore, the resource gap would still be substantial (Rs 2750 crore)

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 15 lakh 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 737 crore 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 [10] 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

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 optimistically re-fixed their 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 tan 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

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.1800-2000 crore

It should be noted that the likely 9th Plan (CRSP+MNP) allocation of Rs 700 crore would suffice for only about 45-50 lakh units at current rates of subsidy Even after another 50 lakh units would be installed through allied programme like (IAY,JRY, etc) the total 9th Plan coverage would be limited to 100 lakh, 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 unity in preference to the toilets unless the cost norms are raised sharply Something which may then affect the physical coverage under those programmes The shortfall may thus be much higher than 10%

Part III

Policy implication

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.

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[9]The 9th Plan draft sets this at Rs 700 crore This is actually lower than the 8th Plan outlay of Rs 674 crore in real terms

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

- 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.

3.2 Recommendations:

1 Target should be scaled down[11]

The reduction in real outlays should be taken up with the Planning Commission at the Minister's level.

2. There should be 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 subsidy from Rs 2000/- to around Rs 600/- would allow about the same extent of coverage under outlay of Rs 1000 crore as under the projected outlay of Rs 4500 crore.

3 However, keeping in view the needs of the BPL segment, we could split the (CRSP+MNP) allocation in two At least 50%(Rs 500 crore) 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 segment alongwith previously under-emphasised activities like school sanitation

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

Part IV

4 1 Changes in the manner of implementation

So far the CRSP approach has been supply driven and mostly through the govt. 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

Annexure-I gives state-wise data **Table 4** ranks some states according to the government, private and total coverage.

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

It can be seen that

- Private initiative has by far outstripped the Government programme, by as much as 100 times

- Greater reliance on private initiative, a "low subsidy" regime or on NGO-driven partially demand oriented delivery system has given much better results [12]

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

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 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.

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[11] *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*

[12] *The rank correlation between Total/Government coverage is 0 6 as against the rank correlation coefficientbetweenTotal/Privatecoverage(=0 977).*

Instead of a Statewide, 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

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 campaign and to allow for the proper grounding of the TSC approach, we also propose a gradually increase the TSC component during the 9the Plan. Say from 50% in the first two years down to 10% in the last, mainly for spill over work

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

4.3 At present, there is insufficient organisation 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, we 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, BGVS 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[13] or the SWAJAL[14] 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 this 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

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[13] *Society for Water & Community Health*
[14] *World Bank assisted RWSS Project in U P*

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

3.1 Conclusion

The paper uses current, field- level implementation experience to propose substantial policy change 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 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 unity 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

Table 1

	Year	Extent of Sanitary Coverage
Planning Commission	1985	7 2% of 1981 RP=378 lakh
NSSO(National Sample Survey Organisation)	1989	11% of 1981 =578 lakh
Census	1991	9 5% of 1991 RP=607 lakh
NFHS[2](National Family Health Survey)	1992-93	12.9% of 1991 RP=824 lakh
NCAER[3](National Council of Applied Economic Research	1994	15.3% of 1991 RP=977 lakh
Planning Commission Working Group Rural Sanitation	1996	25% of 1991 RP = 1697 lakh
Draft Ninth Plan	1998	16% of 1997 RP = 1082 lakh

Table2

1	Individual households latrines @2000/-	Rs 4755 crores
2	Toilet facilities in rural schools	Rs 500 crores
3	Women complexes @5% of 1	Rs 238 crores
4	Other sanitation facilities @5%	Rs 238 crores
5	Alternative delivery system, IEC, etc	Rs 500 crores
6	Monitoring and surveillance	Rs.20 crores
7	Total	Rs.6300crores approx

Table 3

Year	1991	1997	2002 (Projected)
Rural Population (RP) lakh	6086	6784	7321
Poverty Ratio	0 373	0 3055	0 1861
Rural Households (RHH) lakh	1073	1196	1464
BPL RH H lakh	400	366	272
SC	9 50%	16%	75%
SC RHH lakh	102	191	1098
Private Initiative-lakh	94	137	910
Govt. Coverage CRSP+MNP	8	48	138
IAY etc		6 8	50#
Total Govt.-lakh	7.5	54.7	188

Assumption.

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 lakh units/year*
3 *10% IAY units have toilets*
4 *# of the total RH of 170 lakh*
5. *RP & Poverty Ratio data from the 9th Plan Document*

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

Presentations

Six presentations are included in this section. The presenters share their experiences and findings of various sanitation projects that have been undertaken all over the country. These projects can also be used as models for future success of sanitation projects in the country. Some presenters have also presented their findings regarding the knowledge, attitude and practices of people in the sanitation sector.

The first presentation by Dr. Surjya Kanta Misra Hon'ble Minister West Bengal highlights the role of awareness building and demand generation in the success of Midnapore project. It also stresses on the inter-sector linkages between health, sanitation and drinking water along with the role of NGO's youth clubs in creating awareness on the need of sanitation resulting in demand generation.

The second presentation by Dr.J.S.Yadava, highlights the knowledge, attitude and practices of people on sanitation. The paper underscores the effectiveness and success of the government run water and sanitation programmes. It also reveals the Media habits of the people with a view to evolve a better IEC Strategy and develops a new Empowerment model of IEC.

Prakriti Kumar Chakroborty highlights the role of adoption of appropriate technology for the promotion and reinforcement of the rural sanitation programme.

Arun Pathak brings out the various factors responsible for the success of any sanitation programme in the country. He also recommends various factors that have to be considered and adopted to make rural sanitation effective.

The fifth presentation by Ashok Kumar Meena details the reasons for the success of rural sanitation programme and ORS marketing in the Ganjam district of Orissa.

C.P. Kumbhat explains the role of Rural Sanitary Mart, as an innovative way of promoting an alternative delivery system.

SELF FINANCING SANITATION IN WEST BENGAL

Dr. Surjya Kanta Misra

BACKGROUND

The status of sanitation in India particularly in rural areas is far from satisfactory As per 1991 Census, almost 90% of rural people in the country had no access to household latrines In West Bengal the situation was equally alarming Only 12 31% of rural families had latrines, all of which were not sanitary. The age-old habit of rural people, mingled with lack of awareness about low-cost technology has compelled them to defecate in the open

In order to negotiate the situation a unique self-help sanitation project was taken up in Midnapore District in March 1990. The strategy of Midnapore project was to activate a market of sanitary facilities by way of awareness building and demand generation There is demand for different kinds of sanitary facilities amongst the villagers. The demand or desire is however latent People prefer to own a personal toilet for several reasons A sanitary latrine protects one's good health, is convenient and offers privacy

The question is why the villagers do not construct latrines close to his house? A common reason is perceived lack of affordability The villagers can construct their houses within their means, but they are not aware of the art of constructing a latrine within their financial capacity Keeping this in mind, the Midnapur project started with the intention of extensive awareness generation about health-sanitation-drinking water linkages and availability of a technology to suit everybody's pocket The term sanitation entered the village hamlets do not mean a latrine construction programme but as a holistic package of sanitary means of disposal of solid waste, liquid waste, home and food sanitation, hand washing, up-keeping of personal hygiene etc

RATIONALE OF SELF-HELP SANITATION PROJECT – MIDNAPUR

In order to cater the felt need of the rural people generated during mass literacy campaign for improved quality of life, Govt. of W.B. decided to start sanitation movement in Midnapur The project was initially an experimental project. The issue of availability of Govt. subsidy was not focussed Stress was given on making the community aware of the need of sanitation resulting in generation of demand.

This was attempted consciously on the following grounds

a) all previous attempts of the Government to provide sanitary facilities with high dose of subsidy more or less failed.
b) The target to reach the rural families was as high as about 90 lakhs. A moderate dose of subsidyRs.1000 00 per latrine means 900 crores of rupees from the Govt. exchequer. It was considered impossible to mobilise such huge fund within a reasonable period
c) The rural people of West Bengal are capable to mobilise community resource if the programme is given the shape of a movement. This had been tested in land reforms and literacy movements.
d) Each government sponsored development programme carries a risk of generation of subsidy-dependence-syndrome, which may appear to be counter-productive in the long run.

The Midnapore self-help-sanitation-project was thus initiated by the Govt of West Bengal in 1990 A renowned NGO of W B., Narendrapur Ramakrishna Mission Loka Siksha Parishad came forward to implement the project in close

collaboration with Midnapore Z P. with UNICEF support · Ramakrishna Mission Lok-siksha Parishad through its cluster organisations adopted quite a good number of village-level youth clubs, motivated the rural youths to join sanitation movement, trained them up in both sociological and technological aspects of the programme, set up village-level production centres and streamlined supply-line for sanitary-wares. UNICEF supported the software components and technological issues. UNICEF was the catalytic agent in popularising the programme. The result was more than what was expected. Thousands of rural families came forward to own a latrine

SPREAD OF THE PROGRAMME

The experience of Midnapore was replicated in other parts of the state The Zilla Parishads were given a free hand to choose organisations for setting up of sanitary marts No dictum from the government had been given for selection of organisations NGOs, DWCRA, Co-operative societies, registered youth organisations or the panchayat bodies may set up sanitary marts. The sanitary marts were entrusted with the responsibilities of awareness generation, demand creation, production of sanitary wares, construction of latrines and after-sales services.
From 1993-94 the Zilla Parishads have been identifying organisations to set up sanitary marts one for each Panchayat Samities (blocks) Till May 1998 the work could be spread in 1993 Panchayat Samities of the state out of 341 panchayat samities It is expected that all the blocks will be covered by 2000 AD

ENSURING SELF-SUSTAINABILITY:

The issue of self-sustainability of the programme has never been lost sight of In order to ensure self-sustainability, the sanitary marts are allowed to levy Rs.40.00/Rs 50.00 over the actual construction cost of sanitary latrines A portion of the amount charged over construction cost is paid to the motivator as motivator's remuneration, the rest goes to the sanitary marts as overhead cost The overhead cost is required for sundry expenditure of the mart including managerial cost after 2 years when the Govt withdraws managerial subsidy

At the beginning of third year a sanitary mart will require Rs 1800 00 for payment of honorarium to two mart managers during the year and a further sum of Rs.6000 00 as contingent expenditure To accumulate this amount a sanitary mart should motivate and construct at least 960 latrines per year during the first two years This is achievable. In West Bengal 147 thousand latrines could be constructed by about 130 sanitary marts, average annual performance of sanitary marts being 1 11 thousand

The project initiated by a sanitary mart is a never dying one. Construction of sanitary latrine, technological up-gradation will continue for a long time. In addition, the Government of West Bengal visualises the sanitary mart as a centre for transferring rural technology The human resource of sanitary mart will be utilised for construction of rural housing, maintenance of spot sources of drinking water etc.

The advocacy campaign of rural sanitation had provided to fillip to private initiative It has by far out-stripped the Government effort, by a factor of more than three. The awareness generation activities thus convert the latent demand into effective demand

YEAR-WISE PHYSICAL PROGRAMME OF WORK:

It is true that work for Rural Sanitation Programme has not been started in all the blocks of the state Year wise number of blocks covered under the programme is as follows

Year	Number of Blocks Covered
1993-94	13
1994-95	42
1995-96	27
1996-97	25
1997-98	14

In addition in 54 blocks of Midnapore and 18 blocks of Hoogly Intensive Sanitation Programme is going on It is expected that all the blocks will be covered by the next two years

Number of families covered by providing sanitary latrine under the programme is given below.

Year	Latrines constructed
1990-91	1201
1991-92	4843
1992-93	17133
1993-94	19571
1994-95	37010
1995-96	74788
1996-97	117123
1997-98	147072
Total	**418741**

In addition quite a good number of other components like smokeless chulla, soakage pit, latrine-linked biogas plant, bathing cubicle etc have been constructed

FINANCIAL PROGRESS:

Year-wise receipts and expenditure of fund under CRSP/MNP areas follows

Financial year	Fund received under CRSP (*in lakhs*)	Allocation made under MNP (*in lakh*)
1986-87	36 00	
1987-88	40 00	
1990-91	5 00	
1992-93	100 965	
1993-94	75 645	76 610
1994-95		100 00
1995-96	167.025	50 00
1996-97	200 00	100 00
Total	**624.635**	**326.00**

Out of the funds received from GOI under CRSP to the extent of Rs 624 635 lakhs and allocations made by the GOWB under MNP (sanitation) to the extent of Rs 326.610 lakhs, Rs 392 2184 lakhs under CRSP and Rs 155 165 lakhs under MNP (sanitation) has been utilised

IMPACT OF THE PROGRAMME:

The sanitary marts are trying to cover villages by sanitary facilities So far 276 villages have been saturated. Six Gram Panchayats have been covered with sanitary latrines Two blocks are in the way of complete saturation At this point of time a question peeps into the mind – what social benefits are accruing out of the programme?

To get an answer the time is perhaps premature An Impact study may indicate the social benefits accrued so far No such impact study has been taken up as yet But visually we experience that the streets in the villages today are cleaner than before There has been spectacular change in the life style of the rural poor. A study by the Sanitation cell of Panchayats and Rural Development Department of Govt of West Bengal in ATAMLUK II block of Midnapur district has netted some of the social benefits which is indicated below

INDICATOR	1994	1995	1996
Diarrhoeal episode	839	651	490
No of patients treated in OPD	29921	21424	20300
No of patients admitted in hospital	2158	1965	1915

REASONS FOR SUCCESS:

One of the keys to success of self-help sanitation is large scale people's participation in the programme The people's organisations viz Panchayat Raj bodies and the NGOs are working hand-in-hand to implement the programme. In most of the districts local NGOs/youth organisations having transparency and community base have been invited to form sanitary marts Respectable sections of the civil society e.g school teachers, political leaders (irrespective of political faith), government functionaries have been involved in the programme Our rich experiences in both literacy movement and sanitation movement are that these sections of the society unitedly can do great work to usher in a change in the mind-set of rural people

Another factor, which has helped in the success of the programme, is promotion of affordable technology The twin-pit-pour-flush technology has been broken into eleven models. Each model has a mosaic pan with water seal and therefore sanitary The cheapest model costs about Rs 340.0 only and the highest model costs about Rs 3500.00 The lower cost models may be upgraded too higher one without wasting investments made earlier

IEC/HRD is the most important component and the driving force of self-help sanitation project. It is the appropriate sector where govt should intervene in a big way. In West Bengal there being no thrust on subsidy, 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 Till now thrust has been laid on community level IEC by way of group meeting, mahila baithak, intimate inter personal contacts like home visits Though grass root level workers are toiling hard to make the people aware, lot more activities in and media orientation of IEC is considered necessary There has been a conscious attempt not only to set up a decentralised delivery system, but also to create a decentralised mechanism for HRD The state-level sanitation cell has been placed at the SIPRD West Bengal for better management of HRD The sanitary marts are required to get two master trainers trained up from the sanitation cell and conduct HRD at the grass root level

CONCLUSION:

The political will of the Government of West Bengal has placed the programme on a sustainable community base The NGO-Panchayat collaborative driver has helped in developing an alternative delivery system and operationalise the sanitation programme in a mass movement bode It is because of the latter that there has been tremendous community resource mobilisation in the programme The Govt of West Bengal is hopeful that the methodology of implementation of the programme will produce greater result in the near future We are looking forward for a clean rural setting with less morbidity / mortality in the society

RURAL SANITATION PROGRAMME – WEST BENGAL

Initiated in 1990 with Midnapur Project

Objective of the Midnapur project:

1 To reduce water borne diseases

2 To make people aware of personal hygiene, food hygiene, safe water, solid and liquid waste disposal, health-sanitation-drinking water linkage

3 To create a clean rural living through a package of sanitation measures

4 To introduce an affordable technology with provision for up-gradation

5 To test a methodology of sustainable and self-expending sanitation programme

6 To place the programme on community base

7 To establish inter-sectoral linkage

STRATEGY:

1 Involve community organisations like youth clubs under the leadership of PRIs in implementation of sanitation program

2 Awareness generation and demand creation by appropriate village level communication

3 Organise training / orientations at different levels

4 Provide wide range of options of models to suit everybody's pocket

5 Arrange of production, storage and supply of sanitary wares within the reach of the community

6 Ensure community managed supervision and quality control

7 Involve the community particularly women at all stages

8 Facilitate village level operation & maintenance of spot sources of drinking water

9 Ensure accountability at all levels

SPREAD OF THE PROGRAMME

SINCE	1993-94
BY	Sanitary mart
SCALE	One sanitary mart per block

RESPONSIBILITIES OF SANITARY MART

1 Awareness generation

2 Production of sanitary wares

3 Use of local resource & local skill

4 Setting up of a supply line at the door-step of villagers

5 Provide post promotional services including support for up-gradation

SUBSIDY ? ZERO – SUBSIDY ? COMPROMISE

Since 1993-94	Subsidy @ Rs 200.00 per BPL family
Decision	By the Zilla Parishads

PROGRESS OF WORK

PHYSICAL PROGRESS:

Establishment of Sanitary Marts

Total blocks	341
Sanitary marts	193
Coverage	56%

COST OF INTERVENTION:

Total expenditure	Rs 542 15 lakhs
Number of latrines constructed	4 18 lakhs
Cost of intervention per latrines	Rs.130 00

COVERAGE BY SANITARY LATRINE:

Financial year	Latrines Constructed
1990-91	1201
1991-92	4843
1992-93	17133
1993-94	19571
1994-95	37010
1995-96	74788
1996-97	117123
1997-98	147072
TOTAL	**418741**

REASONS FOR SUCCESS:

1 Strong Political will

2 Large scale people's participation

3. Promotion of affordable technology

4 Adequate IEC/HRD back-up

5 Successful inter-sectoral linkage by the PRIs

What People Know & What They Practice
(KAP Study Findings)

Dr.J.S.Yadava,

The RGNDWM over the last decade claims to have successfully covered the majority of habitations with hand pumps/stand posts However, it has now been realised that the objective of supplying safe water would not be achieved to the extent and satisfaction it is expected unless the sanitary aspects of water supply, as well as the issue of sanitation were addressed simultaneously The focus has now shifted from water to water and sanitation The mobilisation of large funds and efforts through RGNDWM in this direction has not yielded the desired impact on the health of the general population Many reasons and explanations could be extended to explain the not so satisfactory results of the efforts under water and sanitation programmes over the years However, in order to have scientific basis for better understanding of various aspects of prevailing situation in regard to water and sanitation in rural India, a nation wide base-line survey was requested by the Rajiv Gandhi National Drinking Water Mission, Ministry of Rural Development The Indian Institute of Mass Communication (IIMC) undertook this assignment of a base-line survey in 65 districts spread over 25 states with the following broad and specific objectives

Objectives

The base-line survey was conducted in 65 districts to achieve the following general objectives

- to provide baseline against which the effectiveness and success of water and sanitation programmes could be assessed.
- to provide background data and insights at the district level for evolving a suitable IEC programme and strategy

Specific Objectives

- to identify the sources of drinking water supply in selected villages, their location and suitability,
- to find out the habits, attitudes, perceptions and practices about the storage, handling and consumption of drinking water,
- to find out the habits, attitudes, perceptions and practices about the personal hygiene including hand washing after defecation and before cooking/eating food,
- to find out the habits, attitudes, perceptions and practices about disposal of solids and liquid wastes including human excreta;
- to find out the awareness about the sanitary aspects of water supply, including keeping the water source neat and clean, safe disposal of waste water and solid waste,
- to find out the awareness about the relationship and impact of water and sanitation on the health of the people,
- to document success stories relating to individuals, families and villages/communities about their participation in water and sanitation programmes,
- to evolve parameters and indicators for measuring impact on health due to adoption of water and sanitation programme,
- to find out socio-economic and cultural barrier and resistance to adoption of safe drinking water and sanitation facilities that are being provided under RGNDWM,
- to document the socio-economic and cultural considerations that prompted some to adopt safe water drinking and sanitation practices under RGNDWM,
- to study the factors facilitating or acting as barriers to community participation in the water and sanitation programme to make it not only operation but sustainable as well,
- to assess the role of various organisations and groups such as the panchayat, school, village functionaries, youth clubs, mahila mandals etc In implementation of various programmes and schemes,

- to study the problem of repair and maintenance of hand pumps/stand posts and the factors responsible for poor maintenance and suggestions about its solution,
- to identify, document and analyse the various channels of information, education and communication about water, sanitation and health related issues, their strength, weakness and potential for effective IEC strategy,

Methodology

The various social science research methods and techniques were used to collect primary and secondary data from different sources with a view to gain insight and document the existing perceptions and conditions relating to drinking water and sanitation situation in rural areas of the selected 65 districts The details are as follows

Library Research.

The books, study reports and other documents relating to drinking water and sanitation were perused and relevant information were culled out for the present study

Sample Survey

In each of the 65 districts taking into consideration the geographical, socio-cultural differences, 20 villages were selected randomly for the sample survey In each of these villages a sample of 30 households giving representation to different sections were chosen for data collection relating to water and sanitation Different instruments of data collection were utilised for sampled individual, family and the village

The villages were selected using random number table from the list of villages in the district. From this, first complete household enumeration was undertaken and from the list of the Households in the village, 30 household was selected using random table number to cover different social/caste categories proportionate to their relative strength in the village population In the sampled household any adult male/female available was intensively interviewed on the basis of prepared and pre-tested household interview schedule

To get a picture of the selected village, information about village as a whole was collected and various aspects of infrastructural and institutional facilities with a focus on water and sanitation situation in the village

For qualitative information case studies and focus group discussions combined with participatory observations methods were used, which provided rich insights into prevailing condition in regard to water and sanitation

The different instruments, for collecting both qualitative and quantitative data were developed by IIMC and finalised after detailed discussions with the consultants, agencies involved and pre-testing in the field. A training manual for training the supervisors and investigators was also developed on the basis of which training was imparted to the participating research teams of supervisors and investigators. The data collected were analysed at the IIMC computer facilities. The statewise reports have been prepared. Here we are presenting the national overall picture regarding WATSAN

Report Structure

The key findings and their IEC implications emerging from this study are briefly presented in this report in separate sections on water related beliefs and practices, sanitation related beliefs and practices, access to information and communication, negligence of service users and providers. In each section various dimensions or parameters of problems are described on the basis of statewise facts and figures State wise information tables are presented in annexures In each section key findings or observations are highlighted. The IEC model emerging from findings is presented at the end.

II

Findings

Water Related Indictors

1. There are usually multiple sources of water in most villages Of the total identified sources about 20 per cent are not functioning due

to various reasons such as mechanical fault, electricity failure, pipe burst, etc. Only in a very small proportion of villages facilities for timely repair and maintenance are available. Further, there is no clear understanding as to whose responsibility it is to report or take action when some fault develops in the water supply system

2 The Study revealed that tap is used by 33 percent, hand pump by 31 per cent, sanitary well by 8 per cent, open/dug well by 20 per cent, lake by 1 per cent, river/canal by 8 per cent, pond/tank by 4 per cent and spring by 6 per cent households at the national level Bihar, Uttar Pradesh and Rajasthan in North and West Bengal, Assam and Tripura in NorthEast are relatively more deprived of tap water Spring is used mostly in Himachal Pradesh, Goa, Meghalaya and Sikkim Pond/Tank is used mostly in Manipur and Assam and River/Canal mostly in Arunachal Pradesh, Tripura, Assam, Jammu and Kashmir Open/dug wells are used mostly in Kerala and Karnataka in South, Assam, Meghalaya and Tripura in NorthEast and Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan in North

3 The available drinking water is considered clean by 89 per cent and safe by 81 per cent households Interestingly 69 per cent people consider the water they use as clean simply because it looks clean Only 20 per cent consider it safe only when it is free from germs In North Eastern states, Goa and Kerala people were more conscious of germs as a determinant of safe water

4 The awareness that contaminated unsafe water can cause certain diseases is relatively higher in Haryana, Uttar Pradesh, Rajasthan, Maharashtra, Gujarat, Kerala, Karnataka, Mizoram, Assam, Meghalaya and Tripura than in other states Almost 50 per cent people think diarrhoea, dysentery, cholera and malaria as water born diseases but not so much filaria, jaundice, typhoid and guinea worm as yet

5 Mostly (41 per cent) is adult and old women who are primarily responsible for fetching water This burden is greater on women in Jammu and Kashmir, Madhya Pradesh, Rajasthan, Haryana, Orissa, West Bengal, Maharashtra, Gujarat, Karnataka and Assam. Only 6 per cent adult males share this burden, that too mostly in Maharashtra, Tamilnadu, Andhra Pradesh, Kerala and Meghalaya.

6 Almost 75 per cent water fetchers have to travel upto 500 meters and spend upto half an hour each day They have to travel longer distances and more time in Rajasthan, Jammu and Kashmir, Himachal Pradesh and Sikkim. As many as 59 per cent people feel that the water they fetched is inadequate and 76 per cent feel that it is safe Inadequacy is more acute in Bihar, Rajasthan, Arunachal Pradesh, Manipur, Tripura and Sikkim than in other states

7 Water is considered as clean by 77 per cent, muddy by 13 per cent, brackish by 2 per cent and containing fluoride and iron by less than 1 per cent Water is muddier in Rajasthan and most of the North Eastern states, brackish in some northern and southern states Water contained fluoride in Andhra Pradesh and iron in NorthEastern states

8 Water is stored mostly in earthen and metallic containers by 28-29 per cent people. Vessels are cleaned with water by 29 per cent, with water and ash by 20 per cent and with water and detergent by only 9 per cent people For water purification people use cloth filter (50 per cent), boiling (33 per cent), Chlorine (5 per cent), Candle Filter (5 per cent), alum (2 per cent) and even seeds

9 People in the sampled villages generally get their drinking water from public water sources mainly taps (33 per cent) and hand pumps (31 per cent) They are put in place by the Government under Panchayat Raj Scheme in 25 per cent villages and under PHED in 35 per cent villages The water supply is adequate through out the year in 42 per cent villages and in slightly higher percentage of villages in Punjab, Himachal Pradesh, Jammu & Kashmir, Bihar, Rajasthan, Gujarat, Goa, Andhra Pradesh and Tripura

10 In 22 per cent villages, people are willing to pay for drinking water and 32 per cent are willing to bear the expenses for operation and maintenance They think that it is governments'

responsibility to install the water supply However, people are more often willing to contribute in kind and even are willing to take responsibility for and acquire the maintenance, repair and management skills to ensure smooth operation of water schemes In general, people are willing to bear the operation and maintenance cost and the cost of water used But they are not willing to bear the capital costs of installation for the obvious reasons of high capital costs and skills involved.

11 The responsibility for installation, operation, maintenance and management of the systems created by the government under various schemes is neither shared with or transferred to user groups or communities or the mechanisms they consider as the most appropriate and cost effective

Sanitation Related Indicators

12 Hand washing before and after eating is almost universal in most states However, hand washing is more a ritual than actual cleaning of hands of dirt etc before eating their meals. After defecation, 74 per cent wash, 4 per cent wipe and 16 per cent wipe and wash the rectum After defecation, hand washing is universal Water and soap is used for washing hands by 34 per cent, water and ash is used by 8 per cent and water and sand is used by 19 per cent of people

12 While 60 per cent people have separate kitchen, only 45 per cent have it properly ventilated. For cooking various fuels are used such as wood by 80 per cent, dung cake by 28 per cent, straw by 22 per cent, Kerosene by 9 per cent, LPG by 4 per cent, coal by 2 per cent, bio gas by 1 per cent.

13 People dispose waste water in backyard (30 per cent), open pit (21 per cent), on the street (17 per cent), in open drainage (9 per cent), in close drainage (7 per cent) and in soak pit (7 per cent) People consider drain as the safest method (41 per cent) followed by open pit (11 per cent), kitchen garden (10 per cent) and soak pit (7 per cent) Stagnant water is considered as a cause of disease spread (45 per cent), bad/stinking smell (34 per cent), mosquito breeding (49 per cent) and inconvenience of some sort (7 per cent)

14 Although most people defecate in open space in most states, only 20 per cent households reported having private latrines Of them, it is noticed that 39 per cent use septic tank, 37 per cent single pit, 8 per cent double pit, 8 per cent service dry method of private latrine

15 Almost 55 per cent people are motivated by themselves, 11 per cent by family members, 9 per cent by officials, 7 per cent by non-officials and 2 per cent by neighbours Among the factors that actually motivated people to have latrines it seems that 30 per cent are motivated by convenience, 21 per cent by privacy, 4 per cent by cleanliness, 2 per cent by status, 1 per cent by old age and only 2 per cent by subsidy

16 So far as material used for latrine construction is concerned, 51 per cent have used bricks, 17 per cent stone and 5 per cent mud Roof is added by 75 per cent and door by 87 per cent Once constructed in 90 per cent cases these are used by all family members, by females only (6 per cent) and by the old and children only (2 per cent) On an average 36 per cent latrines are cleaned by females, 20 per cent by males and only 9 per cent by sweepers

17 Among the reasons for wanting a latrine in future, convenience (55 per cent) ranks first followed by privacy (37 per cent), health protection (23 per cent) and convenience of the old or infirm (6 per cent) Among the reasons given by people for not having a latrine so far, non-affordability (82 per cent) appeared at the top, followed by lack of subsidy (15 per cent), lack of material availability (4 per cent) and lack of detailed knowledge (3 per cent) , it is interesting to note that almost 40 per cent people are willing to spend upto Rs 500 and 19 per cent even more than Rs 500

IEC Strategy

18 Lack of awareness and proper understanding of role and responsibilities at various levels seem to have acted as barrier in their active participation and contribution to the successful implementation of the WATSAN

schemes. Negligence occurs when both public and authority, users and providers of services, fail to define, understand, assume and perform their specific roles and responsibilities that they must perform in order to ensure the success of a programme within a given time frame

19 For effective IEC strategy to overcome negligence factor so widely prevalent and motivate the concerned people at various levels it is suggested to tap only those mass media which are already in use by 33 per cent or more This combination will vary from one state, district or block to another

20 Similarly, using the arbitrary cut off point of 25 per cent of some of the village level functionaries/officials frequently interacting with people can be identified for direct and close interaction with WATSAN service supporters and users at the community level Among them, multi-purpose health workers, Anganwadi workers, Doctors and ANMs or Dais from health department, Panchayat members community development workers and school teachers from other departments are the most crucial

21 A new paradigm for IEC strategy is suggested In this figure, there are four concentric circles The innermost contains the critical mass of real service users, in this case women The next outer circle contains the critical mass of service supporters such as significant members of families, neighbourhood and communities where women live and who have a significant say or facilitating role to play in WATSAN programme The next outer circle contain the critical mass of officials and non officials who are directly or indirectly responsible for providing various inputs and services required by the WATSAN programme The outer circle contains the appropriate combination of mass media that are accessible to the critical mass of users

22 There are arrows shown coming in and going out of each circle as feed forward of program related inputs and feedback of problem-related inputs From outer circle to innermost circle, the programme-related inputs must be provided to ultimately empower the service users in progression. At the same time, from innermost to the outer circle, the problem-related inputs must be provided as a feedback to constantly adjust the nature and flow of new programme inputs in response to the needs and priorities, problems and difficulties of the critical groups in the inner circles in performing their desired WATSAN roles and responsibilities

23 The IEC strategy should convert the large unmet need relating to WATSAN into an effective demand by providing programme related IEC inputs in response to problem-related feedback from service providers, supporters and users with a view to make them sufficiently conscious, willing and able to understand, appreciate, accept and perform their corresponding roles and responsibilities that are involved in design, installation, operation, maintenance and management of WATSAN services on a sustained basis.

III

I E C STRATEGY

Use of Mass Media

As a part of the study, information was gathered on access, use of mass media, folk forms and frequency of interaction with officials particularly the different village level functionaries

The actual use of mass media such as radio, TV, newspaper and magazines is usually greater than the personal or family access in many states as people tend to share the media accessible with others.

From the analysis it emerged that access and exposure to mass media is higher in southern states and comparatively lower in the northern Hindi speaking states and Orissa If we take 33 per cent as a critical threshold, it emerged found that the actual use of radio is less than 33 per cent in Punjab, Haryana, Madhya Pradesh and Maharashtra. The usage of TV is less than 33 per cent in Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Orissa, Maharashtra, Gujarat and North Eastern states The usage of newspaper is less than 33 per cent almost in all states except Gujarat, Goa, Kerala and Karnataka and that of magazine is less than

33 per cent in all states except Karnataka The use of film is less than the critical 33 per cent in all northern states and that of folk form are lower than the threshold only in Haryana and Andhra Pradesh

It is suggested to use that combination of information sources, i e mass media, and folk forms, which have crossed the critical threshold of 33 percent for effective IEC strategy For example, that combination may include TV and folk form in Punjab, and radio, TV and folk form in Rajasthan

Interaction with Officials / Village Functionaries

Interaction with village level functionaries varies but it was noticeably low (17 per cent) with the functionaries associated with the water supply scheme

Using the similar logic of another critical threshold of 25 per cent usage of inter-personal communication, only the following combination of officials having interaction with users looks most ideal i e village level worker, multi purpose health worker, village revenue worker, anganwadi worker and attendant, ANM, Doctor/Vaid, school teacher and panchayat secretary/member/head They have more frequent interaction with people for various inputs and services relevant to water and sanitation program. They as service providers have relatively far more significant influence over people as service users

Negligence.

In the absence of a more appropriate term 'negligence' is used here to capture the overall apathy

Negligence occurs when both public and authority, users and providers of services, fail to define, understand, assume and perform their specific roles and responsibilities that they must perform in order to ensure the success of a programme within a given time frame Not being conscious, willing and able enough to perform the necessary roles and responsibilities are the essential indicators of negligence on the part of public and authority, service users and providers.

Both quantitative and qualitative data gathered through survey and focussed group interviews and case studies with service users and providers as well as others as supporters who have a significant role to play in WATSAN program have clearly brought out 'negligence' as a major problem that might have come in the way of effective implementation of the program in many states For example, adult females are principal service users but never or seldom involved in the program planning and implementation Adult male members in the family, neighbour-hood and community have a key, positive, helping and facilitating role to play in the whole process but they've failed to provide the required support Not only that many a time they played a hindering role instead

Concerned officials and non officials at community, block, district, state and national levels have a joint and collective but distinct and crucial roles and responsibilities to perform in installation, operation, maintenance and management of WATSAN activities However, they have not functioned in co-ordinated manner and failed to perform them at crucial junctures.

Mass Media or an effective combination of appropriate mass media at various levels crossing the critical thresholds of reaching the public, service users, providers and supporters have a pivotal role to perform the necessary and desirable IEC functions but they have failed to assess and meet critical IEC needs of various actors and parties involved in the whole programme. Instead of this, they have functioned as unilateral, one way, arbitrary and non-professional manner without providing constant feed forward and feed back at corresponding levels of interaction between service users, providers and supporters

All observations articulated in this manner have brought out that when necessary, desirable and helping roles and responsibilities were performed well by all concerned, remarkable successes have occurred but when they were not performed or hindering roles were performed, miserable failures have also occurred WATSAN programme is full of such successes and failures

New Paradigm:

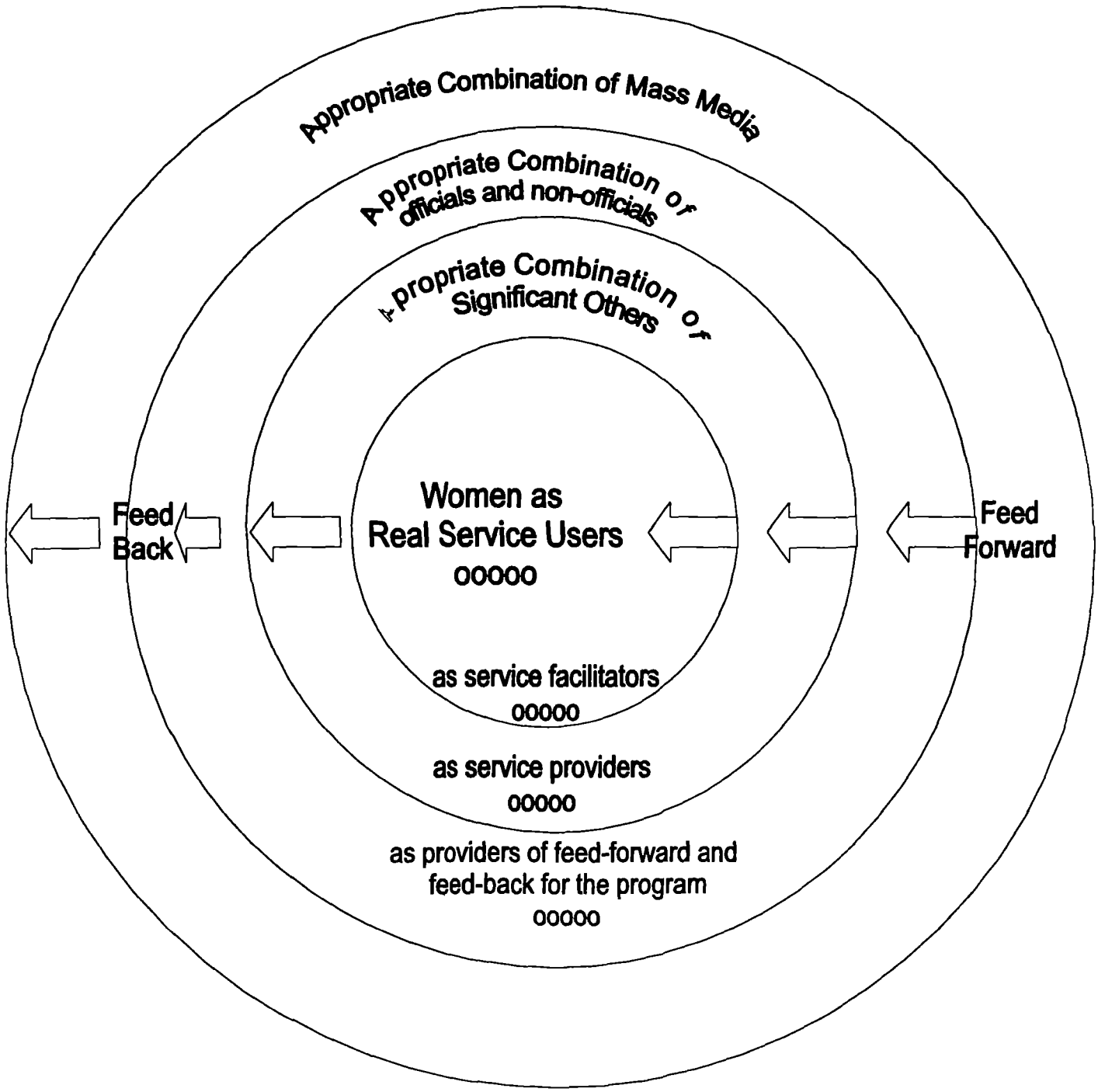
In order to learn the lessons from these successes and failures observed through empirical sample survey, focused group interviews and case studies with service users, providers and supporters, a new paradigm or model of IEC is urgently required An attempt is made to provide one such alternative model to ensure the success of WATSAN program

***See Figure* 1.**

In this figure, there are four concentric circles The innermost contains the critical mass of real service users, in this case, women The next outer circle contains the critical mass of service supporters such as significant members of families, neighbourhood and communities where women live and who have a significant say or facilitating role to play in WATSAN programme The next outer circle contain the critical mass of officials and non officials who are directly or indirectly responsible for providing various inputs and services required by the WATSAN programme The outer circle contains the appropriate combination of mass media that are accessible to the critical mass of users

There are arrows shown coming in and going out of each circle as feed forward of program related inputs and feedback of problem-related inputs From outer circle to innermost circle, the programme-related inputs must be provided to ultimately empower the service users in progression At the same time, from innermost to the outer circle, the problem-related inputs must be provided as a feedback to constantly adjust the nature and flow of new programme inputs in response to the needs and priorities, problems and difficulties of the critical groups in the inner circles in performing their desired WATSAN roles and responsibilities The critical mass in outer circles must be sensitive enough to the feed-backs constantly received from the critical mass placed in the next inner circle in this diagram in order to be effective in achieving the goal of making service providers, supporters and users increasing conscious, willing and able enough to understand, accept and perform the necessary and desired roles and responsibilities involved in the WATSAN programme

The IEC strategy based on this paradigm is presented in the next section



Empowerment Model of IEC for WATSAN

Programme

Critical Mass of People in each circle providing constant feed-forward and feed-back in order to perform necessary and desirable WATSAN roles & responsibilities

IEC Strategy.

The need for WATSAN facilities is greater for women than men in rural areas It is mostly women who need them the most and it is they who are mostly responsible for them as real service users

The need for services is universal in that everyone needs or wants to have them It is only due to real financial, material and operational and maintenance constraints they cannot have them The unmet need for WATSAN services is therefore great and real everywhere.

The IEC strategy should convert that unmet need into an effective demand by providing programme related IEC inputs in response to problem-related feedback from service providers, supporters and users with a view to make them sufficiently conscious, willing and able to understand, appreciate, accept and perform their corresponding roles and responsibilities that are involved in installation, operation, maintenance and management of WATSAN services on a sustained basis

For this purpose, the concept of 'critical mass' of service providers, supporters and users to be placed in relevant concentrating circles as described in the new paradigm is useful. In order to reach and empower the minimum required number of service providers, supporters and users with limited resources in a shortest possible time in such a manner that the programme gains momentum thereafter.

Even if it is arbitrary to fix cut-off points as thresholds for determining critical mass in each category, it is both necessary and desirable to do it strategically It is suggested to have that cut off point at 33 per cent (of people reached by mass media) to choose the optimum appropriate combination of mass media to be placed in the outer circle It is suggested to tap only those mass media, which are already in use by 33 per cent, as it is secondary to increase the usage of mass media beyond that point This combination will vary from one state, district or block to another For example, the combination of TV and folk form might be more appropriate in Punjab where as the combination of Radio, TV and folk form might be more appropriate in Rajasthan.

In each combination, some media may be more appropriate for sending program related feed forward such as TV and radio and some for receiving problem-related feedback such as folk form in these states. In this way one medium in a given combination will complement and supplement the other one and also reinforce and enhance the quality and effect of messages or inputs provided.

While selecting the different media for IEC, their respective strength and limitations in the context of the target audience should be kept in view

In the next inner circle, another combination of officials and non officials who are directly and indirectly involved in WATSAN programme, more frequently interacting with the service users and supporters and who have considerable role and responsibility in the totality of the programme can be identified that is most appropriate in a given district.

Again using the arbitrary cut off point of 25 per cent (frequently interacting with people) some village and cluster level health, education, community development and local self government (Panchayats) officials and officials can be identified for direct and close interaction with WATSAN service supporters and users at the community level Among them, multi purpose health workers, Anganwadi workers, Doctors and ANMs or Dais from health department; Panchayat members community development workers and school teachers from other departments are the most crucial

These are the grass root officials and non officials who could be well equipped with audio-visuals and small media and skills in using them for the critical mass of service users and supporters at the right time and places where water is available, health facilities are located, panchayats and development workers meet and assemble, and women and others come together for various purposes

In the next inner circle, the most active and highly respectable and influential persons at community and neighbourhood levels (both men and women) should be identified as supporters, facilitators and active partners in the WATSAN programme in each village on the basis of Socio-metric information about their seeker and sought relationships for advise, opinion and support on WATSAN Programme inputs They can play the role of facilitator, motivator, enabler land supporter. They will have to rely mostly on interpersonal and group contacts with the real end-users of the programmes. Their meetings with and the visits of officials and non officials will have to be synchronised and regularised to maintain both constancy and consistency of key messages designed to inform, educate and motivate user groups to be responsive and responsible for the WATSAN services

In the inner most circle, a critical mass of about 25-33 per cent most receptive, responsive and responsible women as WATSAN service users will have to be identified to build the critical mass quickly and then reach the rest through them afterwards as a natural momentum or process It has to be done locality wise and water source wise to the extent possible All those who form the critical mass in outer circles will provide programme related IEC inputs on the one hand and receive problem related feedback simultaneously in order to empower the critical mass of end users directly.

The programme related IEC inputs must flow from outer to inner circles in such a manner that one reinforce and enhances the other in progression Similarly, the problem related feedback should also flow from the innermost to outermost circle in such a manner that corrective decision and actions are taken at each level instantly

The programme and problem related IEC inputs should mutually enlighten and empower the critical mass of service providers, supporters, and end users in corresponding circles on the following questions Which are on suggestive not necessarily exhaustive or in that order

- What are unsafe WATSAN practices prevalent in the locality/district?
- What are the harmful effects of those practices on the health and well being of rural people?
- What are the ways and means by which safe and cleanliness of those practices can be achieved to mitigate harmful effects?
- What are the genuine and practical difficulties and problems involved in following good practices even when almost all of them sincerely want to follow them?
- What are the alternatives, options and opportunities available under various programmes by which these practical difficulties and genuine constraints can be overcome?
- Who are the persons who form the critical mass of WATSAN service providers, supporters and users who ought to play a crucial role in the promotion of safe and clean WATSAN practices as efficiently and effectively as possible?
- What are their indispensable roles and responsibilities in the installation, operation, maintenance, management and cost recovery of WATSAN services that need to be understood, accepted and performed either individually or collectively
- What are the difficulties involved in performing those roles and responsibilities and how to overcome them by appropriate socio technical interventions at the right time?

- What are the most appropriate, simple, cost effective, affordable, feasible, manageable, culturally suitable, techniques and methods that are available for people to accept quickly within their real constraints and limitations?
- What are the structural, behavioural and attitudinal hurdles that interfere in the process of providing WATSAN facilities efficiently and equitably to all sections and segments of communities?
- What are the ways and means by which these hurdles can be removed by the critical mass of providers, supporters and users of WATSAN services themselves in a definite manner?

Based on the district level information, the message planning teams of persons in the critical mass identified at district and other levels, should try to find some reliable, convincing, satisfactory answers to these questions first and then select key IEC inputs to be provided through appropriate media vehicles in the manner that is most appropriate for the specific categories of people forming the critical mass at various level

In fact an attempt should be made to prepare linear responsibility charts in which persons responsible from the critical mass can be listed on the left, their roles and responsibilities at the top and key IEC messages in each corresponding cells where rows and columns meet. Messages centring on responsible persons and revolving around their key responsibilities will be far more effective in generating demand and fulfilling their responsibilities for safe and clean WATSAN methods and practices than the conventional one way traffic of simplistic and stereotyped messages.

Technology Options And Sanitation Upgradation

Prakriti Kumar Chakroborty

1. Introduction

For promotion and reinforcement of Rural Sanitation Programme, the role of appropriate adoption of technology play the most vital role Technology options in rural sanitation programme should pay due emphasis to all the seven components of sanitation, viz.

- Safe handling of drinking water
- Safe disposal of waste water
- Safe disposal of human excreta
- Solid waste disposal
- Home sanitation and food hygiene
- Personal hygiene
- Village cleanliness

For successful sanitation programmes along with the desired behavioural change through appropriate technology options, facilities to be created.

2 PRESENT STATUS RELEVANT WITH SANITATION TECHNOLOGY

- Various need-specific technological options have been in practice and are in continuous process of improvement, particularly in respect of
  a) Excreta disposal
  b) Waste water disposal
  c) Solid waste disposal
- National Expert Committee documented the useful information on technological options for implementation of Rural Sanitation Programme
- No adequate awareness about the affordable technology options among the target community
- Large number of latrines constructed either unhygienic, or not in use Many of the bio-gas plants installed, not being functional
- Technology option need appropriate grounding extension, and improvement

3. Important Relevant Issues

I Technological options must be in consistent with relevant economic, social and technical environment

II Technical environment influence by the

- Characteristics of the labour force – skill, productivity, wages etc
- Characteristics of availability of construction material – quality, source, cost, etc
- Construction methodology
- Site and situation
- Etc.

III Strategy of promotion of rural sanitation programme through social-marketing. Liquidating the provider role of Government to the extent possible

IV Technological option decisions must be in alignment with four basic elements of marketing mix

- Product
- Price
- Promotion
- Physical distribution

V To support social marketing process

3 1 Important factors associated with product

- In accordance with functional requirements and needs
- Hygienic
- Site and situation specific
- Easy to maintain in conformity with practices
- Durable
- Flexibility of upgradation
- Reliability and quality assurance

3 2 Important factors associated with price –

- Application of value engineering technique for-
  a) Efficient identification of unnecessary involved cost

b) Evolving process and system support for continuous value improvement of product at least cost

- Technology option should be in accordance with affordability and willingness to pay, of the target-segment

3 3 **Important factors associated with promotion** –

- Acceptability
- Demonstrative impact/credibility of technology
- Aesthetic
- Besides functional requirements, convenience, privacy and dignity

3 4 Important factors associated with **physical distribution** –

- Compatibility of transferring the technology at grass-root
- Use of local material and skill
- Ensuring availability at the doorstep through appropriate delivery-mechanism

4. Sanitation Upgradation

- The objective of upgradation is to install facilities according to present level of users affordability with provisions of gradual improvement,
- There is recommendation for Ninth Plan target to cover 75 per cent of the rural population,
- According to IIMC-Study 51 per cent of the beneficiaries are willing to spend upto Rs 1000/-,
- About 75 per cent of the target segment need to follow vertical upgradation approach,
- In Assam, West Bengal and in few other States, vertical upgradation approach has been successfully tried;
- Upgradation approach facilitates behavioural change towards use of latrines

5. Suggested Actions

- Panchayat level/district level assessment of technical environment and variables associated with social marketing;
- Disseminate/demonstrate situation specific technology,
- Networking and strengthening of the delivery mechanism,
- Pooling the information of different technologies which are in practice and generate data base for easy access and dissemination,
- Continuation of supporting R&D activities/action research

Rural Sanitation

Arun Pathak

1 In the field of rural sanitation, approach and work of Sulabh which initially was confined to abolition of scavenging by construction of (a) individual toilets subsequently spread to (b) building community toilets catering to people deprived of individual toilet facility and/ or floating and working population, (c) has now become holistic and encompasses besides construction of individual and community toilets, fields and spheres of (d) education, health and hygiene

2 In the field of toilets construction, the important ingredients have been

a) development of a technology which is appropriate, accessible, affordable and acceptable, and which is on-site and is pit pourflush type latrine provided with waterseal,
b) implementation of the 'pay and use' system,
c) development of a large number of models catering to both the richer and poorer sections of the society, leaving the option to the user as regards the adoption of the model

3 It has been seen that the sewerage system is not suitable for a developing country considering the cost and excess requirement of water, which today has become a scarce commodity The sewerage system introduced in London in 1850, in New York in 1860 and in Calcutta in 1870 is available in hardly 230 out of 4600 cities and towns of our country and even here, the coverage is only partial

4 The alternative of septic tank also is not suitable considering that it spreads pollution, requires manual cleaning once it is filled up and involves off-site dumping which entails either costly mechanical cleaning through empties or manual cleaning which is against the government policy of abolition of scavenging

5 It is the combination of the three ingredients viz Sulabh technology, pay & use system and choice of models, which have made Sulabh a success story The Sulabh organisation is today spread over 360 out of 560 districts of the country

What started as a mission to abolish scavenging, today, as said, has become holistic We have been trying to graduate from inculcating habits of cleanliness, to even provide separate bathing space for women to clean themselves which, under present circumstances, they are not able to, because in villages there are hardly any bathing places ensuring privacy in a large number of houses and hutment's, to establish conditions which are environment-friendly and lead to cleanliness of mind as well After all, it is not for nothing that it is said 'mens sana in corpore sana'

6 Another aspect addressed by the above mentioned technology is of environment Onsite low cost two-pit pourflush latrine is environment-friendly

7 As regards implementation, popularisation and motivation to adopt low-cost sanitation, what is needed is (i) mass education, (ii) creation of awareness, (iii) increased use of mass media, (iv) teachers' participation, as also of (v) the medical profession, in particular, of the doctors (vi) participation of women, (vii) village panchayats and (viii) political commitment

8 NGOs can play a major role in making low-cost sanitation programme a success Whereas the government can take care of monitoring and supervision, provide seed money, the NGOs can help in implementation, maintenance and follow-up as also in training, motivation and publicity

9 One of the important aspects to be considered is funding of the programme It is suggested that NGOs must become self-sustaining in the matter of generation of funds and not always depend on the government Adoption of pay and use system as also involvement of commercial banks, financial institutions and Gramin banks in the implementation of the programme can make a success of low-cost sanitation schemes

10 What really is required is that sanitation should become as large a national campaign as one of Water Mission and should gradually be imbedded in the consciousness of the people in the same way as environment has

11 It may be emphasised that government alone cannot or, for that matter, only one or two NGOs cannot spread the message and implement rural sanitation on a national scale Let as many NGOs enter the field as would like to do so

I am sure, with the adoption of the approach suggested, rural sanitation drive will have its desired effect in the foreseeable future

The Success Story of Rural Sanitation Programme in Ganjam District

Ashok Kumar K.Meena

A District Team Lead by the Collector visited the District of Midanpur, West Bengal to share the Successful experience of Rural Sanitation Programme in the District. From there an easy and low cost technology was carried down to the district Community Polytechnic, Berhampur took the sole responsibility to adopt the same technology and with appropriate modification it became a technology transfer centre for the district

Through their effective and efficient orientation of Masons the technology today has spread over the district DRDA in active collaboration with UNICEF has organised several orientation programmes for the masons of existing Private Production centres to equip them with appropriate technology. Several Private producers have taken keen interest to adopt the technology and have started selling the new model on their own The district administration is only approving the centies as an authorised centre One such centre named Chaitnya Concrete shares its successful experience with the district authority After getting due technological training the centre initiated the production on trial basis and approached a nearby village named Sitanagar The villagers after a few interactions came forward to construct their own latrine even at their own cost Today the whole of the village has successfully taken up the work and out of 56 house holds in 26 houses the installation work has been completed by the production centre and work in other houses is in progress. Out of which the subsidy from the Rural Sanitation Fund for the BPL families for 19 houses has been released This village created a hype and now near by villagers are coming forward to construct own latrine, even with their own contribution if they are eligible for any subsidy

The district administration has fixed flat subsidy for the lowest cost model of the latrine with the due consent of the Department and has developed an effective procedure to take up the Rural Sanitation Programme in the district

1 Application Form for individual beneficiaries was developed
2 This application is available in the Blocks for the individual beneficiaries
3. The interested Households fill the application and submit the same along with their own contribution to the village motivating group
4 It is then forwarded to the nearest authorised production centre to take up the installation work to be completed with 15 days
5. The work is executed by the production centre and the application is sent to the office of Block Development Officer for the verification of work and the BPL member list

and then sent to the office of DRDA for release of subsidy and motivational charges

6 The total subsidy was decided to be Rs 300/- flat irrespective of any kind of latrine constructed The model with the least cost is Rs 500/-. Of which the individual contribution for BPL families is Rs 200/- (Excluding labour charge for Pit hole digging) For those above poverty line no subsidy is sanctioned and therefore they have to deposit Rs 500/- at the time of applying for latrine construction

ORS SOCIAL MARKETING IN THE DISTRICT

For the first time in the district the concept of Social marketing of ORS was introduced in the month of September '97 To begin with the modality for the programme was framed as follows

The Key Concept was to establish functional ORS Depot in the villages for round the clock services and not Charity again

The key instruments for the purpose were

- Residential School Teachers
- Active Village Women Groups
- Active Village Group Members

For these on Pilot project basis villages from 9 Blocks were identified and 426 OPS Depots were set into operation by the district authority. These Depot holders were initially given a stock of 40 ORS packets as revolving fund and were authorised to sell them at a very minimal price in their villages' i e , at Rs 3 50 per packet They were supplied with sale proceed booklets to maintain records and to submit monthly sales ieport at the Block Level. After the sale they can ienew the stock paying Rs 2,50 per packet from the Block Office So they were allowed to retain Re 1/- per packet sold as an operational expanse

To support these different organisations sponsored space in the print media to propagate the idea of ORS More than 700 Wall paintings have been done in the villages to display the depot holders' names and addresses and each depot is supported with a display board

The monitoring is done in two tiers

1 At Block Level - By the S I of Schools & Block Development Officer
2 At the District Level – By the Project Implementation Office

The Strength of this system:

The supply of ORS packets through the Health Department was very limited At the most one or two packets could be supplied, and that too not necessarily when essential. Now that depots have been established, ORS packets are available round the clock and in required numbers. The depot is literally at people's doorstep

NEW PARADIGM IN SANITATION
THE RSM EXPERIENCE OF UTTAR PRADESH

C.P.Kumbhat

The Rural Sanitary Marts (RSMs), as an innovative initiative to promote an alternate delivery system, was initiated in Uttar Pradesh in 1992 As of 1997, a total of 163 RSMs are in operation, scattered over half of the State

Genesis :

The Rural Sanitary Marts initiative, which started as a zero-subsidy alternate delivery system to promote sanitation, has evolved into a virtual 'People's Movement for Sanitation' This is, indeed, a matter of pride for Uttar Pradesh where the concept took shape under the aegis of the Panchayati Raj Department with UNICEF support

In just seven years of its inception, the RSM network is 163-strong, with a gross turnover of over Rs 5 crores Integrating intensive marketing and social mobilisation, and supported by a network of trained motivators and masons providing strategic inputs, this unique 'One-stop Sanitation Venture with Social Objectives' has directly contributed to the construction of over 30,000 household latrines, in addition to extensively promoting hygiene practices and other components of environmental sanitation, within well-defined catchment areas

Objectives :

The RSM initiative is the first step towards shifting the focus of sanitation from a subsidised government programme to 'privatisation' The RSM strategy has facilitated

- acceleration of coverage levels through ready accessibility to key hardware inputs for the construction of sanitary facilities,
- promotion of personal hygiene practices through awareness creation,
- crystallisation of demand and activation of dormant demand,
- the availability of services of trained masons,
- dissemination of know-how (design, types, costs etc) on low cost technology options

The RSMs, linked to production units, have indicated immense potential as an income augmenting/employment generating activity No wonder, that that the State administration is strongly recommending that bank provide financial support to these units under the Prime

Minister's Rozgar Yojana (PMRY), the Integrated Rural Development Programme (IRDP), and other self employment schemes

From Mart to Movement:

- Select Panchayat Udyogs, credible NGOs and Institutions are managing the RSMs in Uttar Pradesh Up to 1995, the Panchayat Udyogs were the only Government agency responsible for operation's and managing the RSMs, however, to take the programme to scale, new partnerships and alliances were explored and the support of NGOs and Institutions enlisted to manage the marts

To ensure that the marts emerge as economically viable and sustainable units, 'catchment area' of approximately 30 villages located around the RSM has been identified, in which focused mobilisation activities are undertaken to generate demand

To make sanitation a sustainable people's movements, intensive and vigorous social mobilisation activities using a mix of communication media, are organised in the catchment areas An integral component of the social mobilisation efforts is the involvement of grassroot functionaries and people's representatives Sales promotion techniques are adopted by the marts to ensure their viability

One of the innovative marketing strategies is 'RSM-on-wheels' In some districts, mobile RSMs have been experimented with, i e a trolley/rickshaw to take sanitation and personal hygiene products to the very doorstep of the potential buyer In some other districts, mini RSMs i e display-cum-sales counter at smaller market places, have been established with the objective of expanding the outreach In order to boost sales, incentive selling is also being promoted by some of the marts

Cost effectiveness and Sustainability :

The RSM experiment in UP has been cost effective and hence sustainable. The cost

effectiveness of the RSMs can be evaluated on the basis of latrine sets sold to private buyers If these 30,000 plus latrine sets sold by these marts would have been supported under the subsidised Rural Sanitation Programme the Govt would have spent approximately Rs 7 5 crores as subsidy whereas the total financial support provided to operate these marts was approximately Rs 2 crores

This clearly suggests that 'break-even' have already been achieved In addition, the social and health benefit accrued, are an added advantage combined with employment opportunities

The Department of Panchayati Raj monitors the performance of these marts at district, division and state levels

To conclude, the RSM strategy is contributing significantly towards promoting sanitation and hygiene awareness in Uttar Pradesh and has tremendous potential for expansion to cater to the needs of communities

General & Economics

This section has four papers.

The first paper by Ashish Panigrahi makes an attempt to compare the State Level Policy guidelines in Gujarat and West Bengal particularly with regard to the role of subsidy.

In the second paper K Pushpangadan & G.Murgan, provides a conceptual model of cost efficiency of and returns from sanitation emphasising its complementarity with water supply and hygiene education within the frame work of Sen's capability approach.

The third paper by SCOPE highlights the perception of people in the construction and use of latrines and the essential factors involved in motivating them to do the same.

The last paper in this section by Ms Annapoorna Dixit highlights the role of Unicef in promoting sanitation in the country.

The paper also emphasises on the importance of a demand-driven approach facilitating user choice, decision making and investment in line with World Bank lending strategies in rural water supply and sanitation.

A Comparative Review of State Level Policy Guidelines for the Implementation of the Central Rural Sanitation Programme in Gujarat & West Bengal

Ashish Panigrahi

Introduction

Use of latrine or safe sanitary practice is a crucial indicator qualifying improvements in standard of living The concern at the national level is triggered by the fact that approximately 87 percent of the rural population reported practising open defecation according to both the census 1991 and NFHS estimates

Improving rural environmental sanitation and promoting use of latrines among rural households has been attempted by the MORAE, government of India through various programs Of primary significance is the Central Rural Sanitation Programme (CRSP)

The CRSP has been aimed to accelerate coverage of sanitation amongst rural population particularly households below poverty line and socially backward communities The programme envisaged providing subsidy to the households below poverty line and encouraging other households to buy the facility through markets, sanitary marts, sanitary etc The State Level adoption of the CRSP guided by innovation policy measures both in case of West Bengal and Gujarat has been focussed on demand generation for latrines in the rural areas

The proposition of generating demand for latrines among the rural households, conventionally and traditionally used to open defecation is a colossal task This implies engineering a change in the behaviour and socio-cultural dimensions of rural life

The ingredients of the campaign for use of latrines addresses to social and cultural concerns (such as dignity of women, status of the households in the village society, safety etc), health concerns (has an impact on incidence of water borne diseases and the cost incurred due to high frequency of such incidence), and economic issues (household's propensity to consume on latrine, affordability etc)

It may be pointed out that in the policy guidelines of the CRSP a subsidy of 80 percent of an estimated cost of Rs 2500 of a HSL is permissible However, the cost and subsidy for latrine depends on the state level innovation in the strategy for rural sanitation which specifies

- ⇒ definition and design of a safe latrine vis-à-vis subsidy
- ⇒ the institutional framework and delivery mechanism

The above two components are the basis of the policy guideline and the strategy adopted at the state level The following section depicts a comparative analysis of the parameters mentioned above

1.1 Financing Pattern and Design of Latrine

The issue of subsidy emerges as a vital component for promotion of latrine use The guiding principles on disbursement of subsidised household latrines as prevalent in West Bengal and Gujarat are as follows

1.1.1 Supply for subsidised latrines in Gujarat

The low cost sanitation programme in the rural areas in Gujarat envisages household sanitary latrines costing at an average Rs 2700 The subsidy component for these latrines under the CRSP / MNP varies between Rs.1270 to 2000, and corresponding beneficiary contribution varies between Rs 1100 to Rs 570 approximately

It is evident that the programme is subsidy driven and subsidy makes a significant impact on the current demand scenario at the household level

It may be mentioned here, that in Gujarat the CRSP and MNP are designed to sere specific

beneficiary categories separately. The arrangement is as follows ·

⇒ CRSP caters to beneficiaries essentially below poverty line and belonging to General / SC /ST categories

⇒ MNP cater to beneficiaries who do not quality for the CRSP stipulations i e households who are not below the poverty line and belonging to General / SC / ST categories

As has been mentioned before the total cost of a latrine in rural Gujarat is Rs 2700 The net estimated cost of a water seal twin pit pour flush latrine is Rs 2291/- After adding the ETP (establishment, tool and paint) charges @ of Rs.409 per latrine, the total cost comes to Rs 2700

The ETP charges of Rs 409 is distributed by the GWSSB as follows

GWSSB (Retains)
- Rs 84 per latrine

ETP incentive to the beneficiary
- Rs 125 per latrine

Nodal Agency
- Rs 100 per latrine

Implementing Agency
- Rs 100 per latrine

The beneficiary contributions for latrines under the programme are as in **Table 1**

The typical profile of a latrine in the rural areas in Gujarat is appended in Figure 2 The model for low cost latrine prescribed for Gujarat is a gully built-up unit and comparatively more expensive than the latrines disbursed in rural West Bengal

1.1.2 Supply of low cost latrines in Rural West Bengal

In case of West Bengal, disbursement of latrines is preceded by inculcating a perceptional change with regard to existing unsafe sanitary practice at the community level In case a natural demand or felt need for latrines is existing, subsidies is used to cater to the weaker section of the society who recognises the need for a latrine but do not have the means to acquire one. In some cases subsidies are also used to give fillip to latent or dormant demands, instances wherein the community is reasonably confined about the requirement of a latrine but is not adequately proactive to acquire one

Two aspects are taken into account while subsiding latrines

- The subsidy is earmarked to provide the minimal standards in latrine Improvements and upgradation over the basic structure is financed by the user / beneficiary

- The subsidy is partial in nature and is supplemented by corresponding beneficiary contribution

Figure 2 depicts the different models of latrine available under CRSP in rural West Bengal Since subsidy is limited to Rs 20/- for any beneficiary, opting for an expensive latrine entails higher proportion of beneficiary contribution for the latrine

It is apparent that community level motivation is the crucial factor for generating demand for latrines in rural areas, and subsidy is only a supplementary input Thus the program envisages and incentive for the grass root level motivator @ of Rs 20 per latrine) instead of using subsidy as an incentive for the beneficiary users The amount received by the motivator as an incentive is contained in the net cost of the latrine The RSM also keeps a margin of a maximum of Rs 50 per latrine to meet administrative and establishment costs

The net cost of a latrine of minimum standard is Rs.365 approximately

1.2 The Delivery mechanism and Institutional Arrangement in supply of Low Cost Sanitation in Rural Areas

The section attempts to analyse the supply mechanism and corresponding institutional arrangement to support such mechanism The feasibility of the model of supply of latrine as envisaged in the two states and the role and

responsibility of functionaries involved are compared here

1.2.1 The role of facilitators in Rural Sanitation in Gujarat

The CRSP programme is implemented by the GWSSB (Gujarat Water Supply and Sewerage Board) with the help on Non-Governmental Organisations (NGOs) in Gujarat The implementation approach involving NGOs in disbursement of latrines in rural areas including construction work is guided by the ability of the NGOs to network at the grassroots Subsequently the NGOs can comprehend the local situations in terms of community level needs and consumption priorities This evidently helps the NGOs to realistic and effective awareness generation campaigns to generate demand for latrines at the grassroot level

In the initial phase of the project the Environmental Sanitation Institute (ESI), Ahmedabad was the only Nodal Agency involved in co-ordinating the efforts At present there are seven nodal agencies, which are appointed by GWSSB to conduct the programme at the state level with the support of Implementing NGOs at the district level Specific districts have been designated to each of the Nodal Agencies to conduct programme. The GWSSB have rendered considerable work load and responsibility to these Nodal Agencies through a resolution issued to hand over the work of rural sanitation programme to the Nodal Agencies

The implementing NGOs operating at the district level are required to submit to the Nodal Agency in charge of the district the following documents and enter into an agreement with the NGOs

1 Name of institute, its address and field of activity
2 List of heads of the NGO's Managing Board, Workers, etc.
3 NGO's resolution stating that they are willing to take up the programme
4. Last year audit statement and annual report
5 Certificate of Registration from the Registrar of Societies
6 List of villages in which NGO wanted to implement this programme along with panchayat resolution from those villages

Once the above documents are received and validated, the agreement between the Nodal Agency and the Implementing Agency is formalised Thereafter, the Nodal Agency gives the work order to the Implementing NGOs to initiate the programme implementation

The beneficiary households are selected by the Implementing NGOs The household applications are scrutinised and approved after selection of the actual site of latrine construction by the field workers associated with the NGO The Implementing Agency obtains the sanitaryware corresponding to the demand generated at the village level, on approval of demand voucher by the Nodal Agency Registered suppliers of the GWSSB supply the sanitaryware The GWSSB has recognised 8 to 9 such suppliers at the State level The trained masons, under supervision of field workers subsequently construct the latrines

In a typical case, the Implementing NGO, after constructing a few latrines, submits the completion report to the Nodal Agency for release of subsidy funds The field workers from the Nodal Agency validate the latrines constructed and prepare a report to be submitted to the GWSSB. Inspection is then carried out by the Engineers of the GWSSB and on their approval payment of subsidy and administrative charges are made to the implementing NGO Subsequently the BGO reimburses the subsidy amount due to the individual beneficiary

It may be noted here that the Nodal Agency only facilitates (does not purchase) the Implementing NGOs in procuring the sanitary sets required for this programme The Implementing NGOs also facilitates individual household in procuring other materials such as bricks, sand, door, etc. for the super structure

The Implementation procedure is depicted in Figure – 3

1.2.2 Decentralised Market Mechanism in West Bengal :

In West Bengal the programme is being implemented through a decentralised market mechanism supported by a Panchayati Raj and the Rural Sanitary Marts / Production Centres NGOs or the panchayat samity at the block level manages the RSMs The state level co-ordination cell is in-charge of the total monitoring and implementation of the programs

For the proper implementation of the sanitation programme panchayat and rural Development department has established the District level Sanitation cell for evaluating and monitoring the work of the Rural Sanitary Marts in implementing the Sanitation Programme Presently, all the districts in the West Bengal have a district Sanitation cell The Janasahtha Karmadhyaksha an elected member of the Zilla Parishad and the additional Executive Officer are the two important functionaries of the District Sanitation Cell The Sanitation Cell is headed by a District Co-ordinator (a retired Govt servant or a servicing officer)

The concept of a District Sanitation cell has been recently implemented and in an evolutionary stage

The District level sanitation cell apart from overall monitoring of the programme is also responsible for timely release of funds and its utilisation by the rural Sanitary Marts, organising awareness campaigns in collaborations with the Panchayat Samity / RSMs and other NGOs, selecting blocks for further CRSP coverage etc

The programme originally focussed on the issue of community level demand generation for latrines envisaged the concept of RSM established at the block level as a means to cater to the grassroots demand But demand for latrines at the grassroots required exhaustive motivation activities Since, in practice grassroots motivation is conducted of the RSMs, and the subsistence of the RSMs eventually depends on demand generation at the village level, the focus of the programme has shifted to the RSMs The production centre accompanies the establishment of RSMs (where sanitary wares are manufactured) The RSMs perform the crucial function of .

1 motivating the community to opt for latrines
2 supply household sanitary latrines

The level of community mobilisation would depend on the capacity of the RSM Where the RSMs are managed by capable NGOs, the degree of community mobilisation is comparatively high

The establishment of the RSMs is supported by the State Government under the CRSP and in some cases by the UNICEF The RSMs receive a seed fund of Rs 2 49 lakhs (approx)

In first instalment an amount if Rs 96,000 is disbursed to the RSMs to set up the production centre This includes fund for training of motivators / masons and managerial support

There after the balance amount of Rs 1 53 lakhs is disbursed in two instalments This includes an interest free loan of approx Rs 1 lakhs towards developing a stock of items to be traded by the Marts This loan is estimated to be one-fourth of the annual turnover of a typical RSM

It may be pointed out that apart from support on

Salaries of 3 Mart Managers @ 750/-	Rs 63,000
Publicity and Marketing Support	Rs 9,200
Cost for Motivation Campaigns	Rs 13,000
Training and Orientation	Rs 12,000

The RSMs are expected to generate some profit for their own sustenance The RSMs charges Rs 20/- per latrine for every latrine costing upto Rs 800 and Rs 30/- each for every latrine more than Rs 800 The program envisaged that typical RSM would generate a net annual profit of Rs 2,200 (approximately)

In Practice the beneficiary is initially motivated not to go for open defecation and subsequently opt for latrines Once the beneficiary

is prepared to opt for a latrine, the beneficiary households deposit to the RSM the beneficiary contribution in monthly instalments The RSMs either receives fund from the Pancahyat to construct subsidised latrines or the subsidy amount is given to the beneficiary, which is eventually handed over to the RSMs

The Institutional Arrangement is exhibited in **Figure – 4**

1.3 Top level Analysis and Inquiry Areas

The impact of the two different strategies of non-subsidised latrine in West Bengal and subsidised latrine supply in Gujarat in terms of temporal trends in supply is reflected in Table 2·

Evidently, a lower rate of subsidy has entrained a higher level of coverage by latrines However, these figures needs to be interpreted at the backdrop of the policy guidelines prescribed of the state level The state level definition / conceptualisation of a safe sanitary unit is an important basis for evaluating the impact of the program For instance, a low cost latrine as defined in West Bengal may be considered an incomplete or unsafe sanitary unit in Gujarat.

Again it may be recalled that the salient feature of the sanitation programme in West Bengal has been create a dent on the behaviour of open defecation by providing low cost affordable sanitary units It was also envisaged that the structure of the sanitary units should be compatible to the house types normally observed in the rural areas, to promote regular use of the HSLs

Apart from subsidy and the standard design of latrine adopted at the State level, the role of the facilitator and its relative significance in the overall process of programme implementation is a key success indicator

1.3 In case of Gujarat, analysis of the coverage of these two programs, i.e , CRSP and MNP across market segments on caste/income criteria is as shown in **Table 3**

The table above exhibits the levels of readiness of the target markets for the sanitation programs The closer the target populace to the right and of the continue the lesser is the demand for sanitary latrines dictated by the subsidy

What would happen if Subsidy is reduced or withdrawn?

Categories	**Anticipated Effects**
a SC/ST (Non BPL)	non adoption
b Others (Non BPL)	shift to own source (probably to an extent of 30%)
c SC/ST (BPL)	non adoption
d Others (BPL)	may adopt own source (probably to an extent of 20%)

It may be inferred from the study of the delivery mechanism of latrines in Gujarat that there is an in built procedure to maintain the quality of materials used for latrine construction However, there is very little scope to ensure that subsidy actually reaches the desired beneficiary In fact possibilities of subsidies being cornered by the privileged section of the society are wide open, warranting strict scrutiny to verify the economic and social background of the recipient of subsidy.

In case of West Bengal, the process of facilitation is crucial input in the programme implementation It has been observed in the field that the existence of a proactive NGO with strong network at the grassroots has yielded desirable results in response to the prescribed policy guidelines The success story of Medinipur is bolstered by the activity of a NGO – the RKMLSP, which has a sound interactive network at the village level

The principle objective of the programme as envisaged by the facilitator is to increase coverage of safe sanitation practice, by providing small amount of subsidy to a large number of beneficiaries and ensure that every household eligible for subsidy actually receives the benefit Since the amount of subsidy is low, it is evident that subsidy is not used as an incentive

What are the factors influencing a high incidence of latrine in Medinipur district? Persistent efforts to motivate and mobilise the

community to suspend open defecation and opt for sanitary latrines The RKMLSP opined that motivation the rural community is a difficult job, irrespective of the level of economic development, literacy rate etc Use of HSLs can be promoted only by a process of consistent mobilisation / orientation It may be hypothecated that *community* level *motivation* being the only determining factor influencing an increase in latrine use, low cost of the HSLs adds feasibility to the marketing strategy

It may be further hypothecated that motivating the beneficiary is much more conducive in areas characterised by urban influence or a rural-urban continuum in terms of
rural – urban linkages in occupation, education etc
occupational structure (characterised by non-primary occupation)
lack of open – space due to high population density, etc

Absence of any subsidy would effect the weaker sections of the society only, however, demand for latrine can still be maintained by ensuring a decentralised market mechanism and persistent orientation programs at the grassroots

Since the RSMs has evolved as the cornerstone of the implementation plan, the viability of the RSMs emerges as a key factor in ensuring success of the programme The strategy for CRSP implementation envisaged existence of a RSM in very block of the state. Simultaneously the strategy also estimated a net annual profit of Rs 2,200 for every RSM
Finally the profit margin as envisaged at the policy level appears to be on the lower side and is not a profitable proportion or an adequate incentive A profit margin as low as Rs 200/- per year would lead the RSMs to compromise on quality of sanitation materials.

Furthermore, field observation depicted that the demand at the block level is not uniformly adequate, hence the estimated profit amount is also unpredictable

Secondly, in the backdrop of the first observation, it may be unfeasible to have an RSM for every block The field observation also suggested that RSMs serving catchment areas spreading across blocks is depicting better sustainability

1.3.2 A Micro-level Research Design

A study sponsored by the MORAE and conducted by the ORG under progress envisages investigating the use pattern, and generating primary level data to reflect on the incidence of subsidy received for constructing latrine and corresponding impact on use of latrines This study would also decipher the profile of the beneficiary households to comment on the actual beneficiaries with respect to their economic and social background

The study would also analyse the delivery mechanism in place in the respective states vis-à-vis the distribution of latrines among different income and caste categories The institutional framework in the state, the role and responsibilities of the respective stakeholders involved in the programme and the vertical and horizontal linkages necessary to explain the supply scenario A brief account of the research design is given in **Figure 5.**

Table 1

Programme	Target	Subsidy	Beneficiary Contribution
CRSP	General / SC / ST (BPL)	State 1000 Central 1000 ETP incentive Rs 125	Rs 2291- Rs 2000 =Rs291/-
MNP	SC / ST	45% of Rs 2291 i.e Rs 1718 25 & ETP incentive of Rs 125	Rs 573
	General	50% of Rs 2291 i e Rs 1145 & ETP incentive of Rs 125	Rs 1145

Table 2

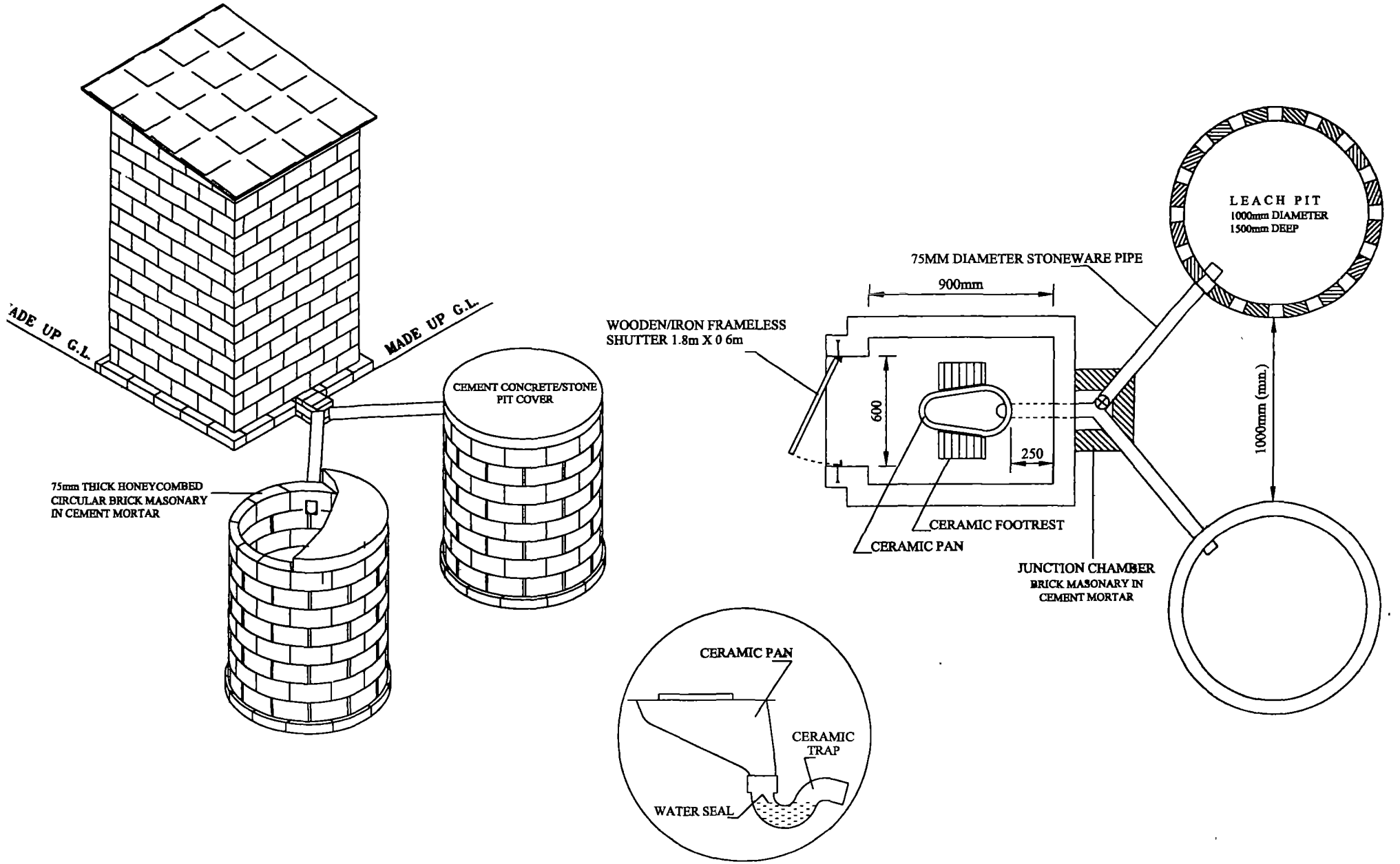
	West Bengal	**Gujarat**
Till 1993	23,177	58,965
1993 – 1994	19,571	15,221
1994 – 1995	37,010	16,804
1995 – 1996	74,788	36,500
1996 – 1997	1,17,123	29,541
Total	2,71,669	1,57,031
1993 – 1997	1,94,492	98,066

Table 3

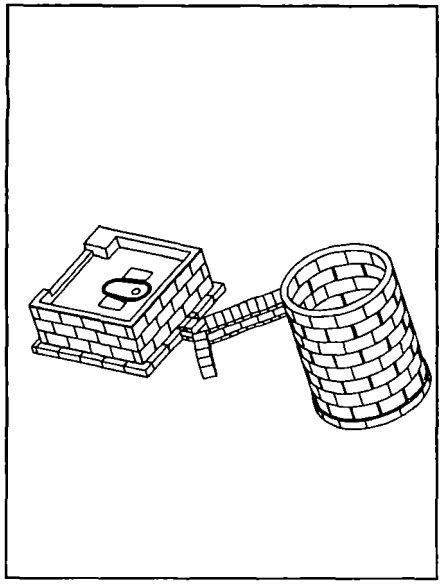
Readiness For Adoption of Sanitary Latrines

Programme/Target	Awareness	Knowledge	Liking	Preference	Conviction	Adoption
MNP						
SC/ST (Non BPL)	✔	✔	✔	✔		
Others (Non BPL	✔	✔	✔	✔	✔	
CRSP						
SC/ST (BPL)	✔	✔	✔			
Others (BPL)	✔	✔	✔	✔		
Others Private	✔	✔	✔	✔	✔	

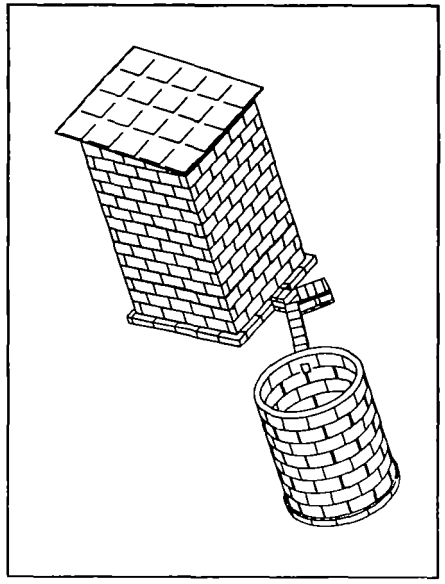
Twin Leach Pit Latrine : Gujarat Model



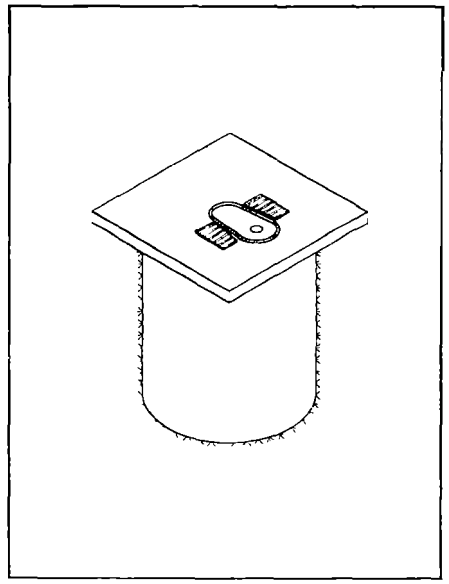
Models of Latrine Disbursed Under CRSP : West Bengal



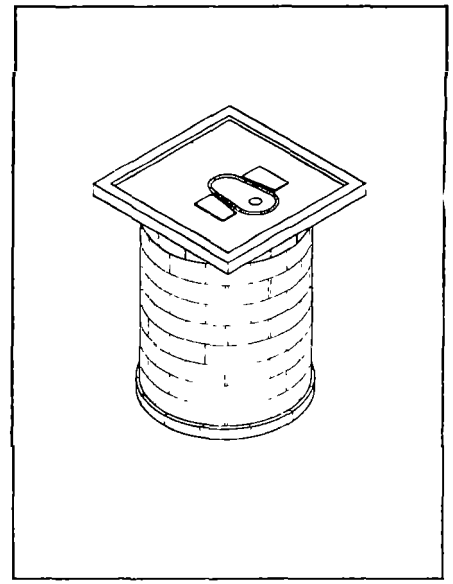
Single Pit with Honeycomb and raised Platform (without Permanent Superstructure) Rs 1260



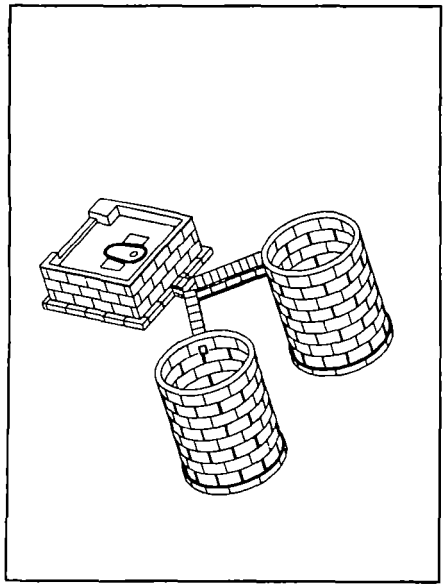
Single Pit with Honeycomb and Permanent Superstructure (with raised Platform) Rs 2460



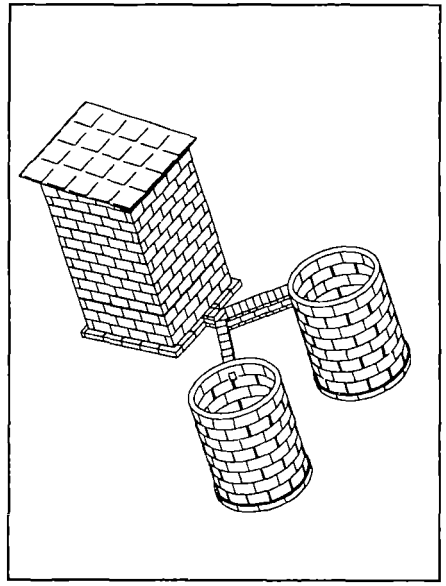
Rectangular Pantrap without Honeycomb (Without permanent superstructure) Rs 350



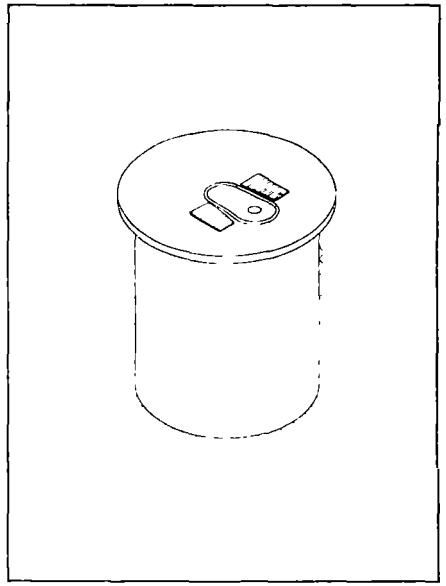
Rectangular Pantrap with Honeycomb (Without permanent superstructure) Rs 710



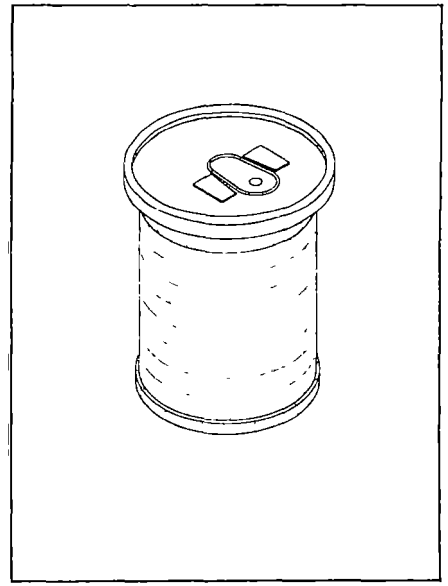
Double Pit with Honeycomb and raised Platform (without Permanent Superstructure) Rs 1730



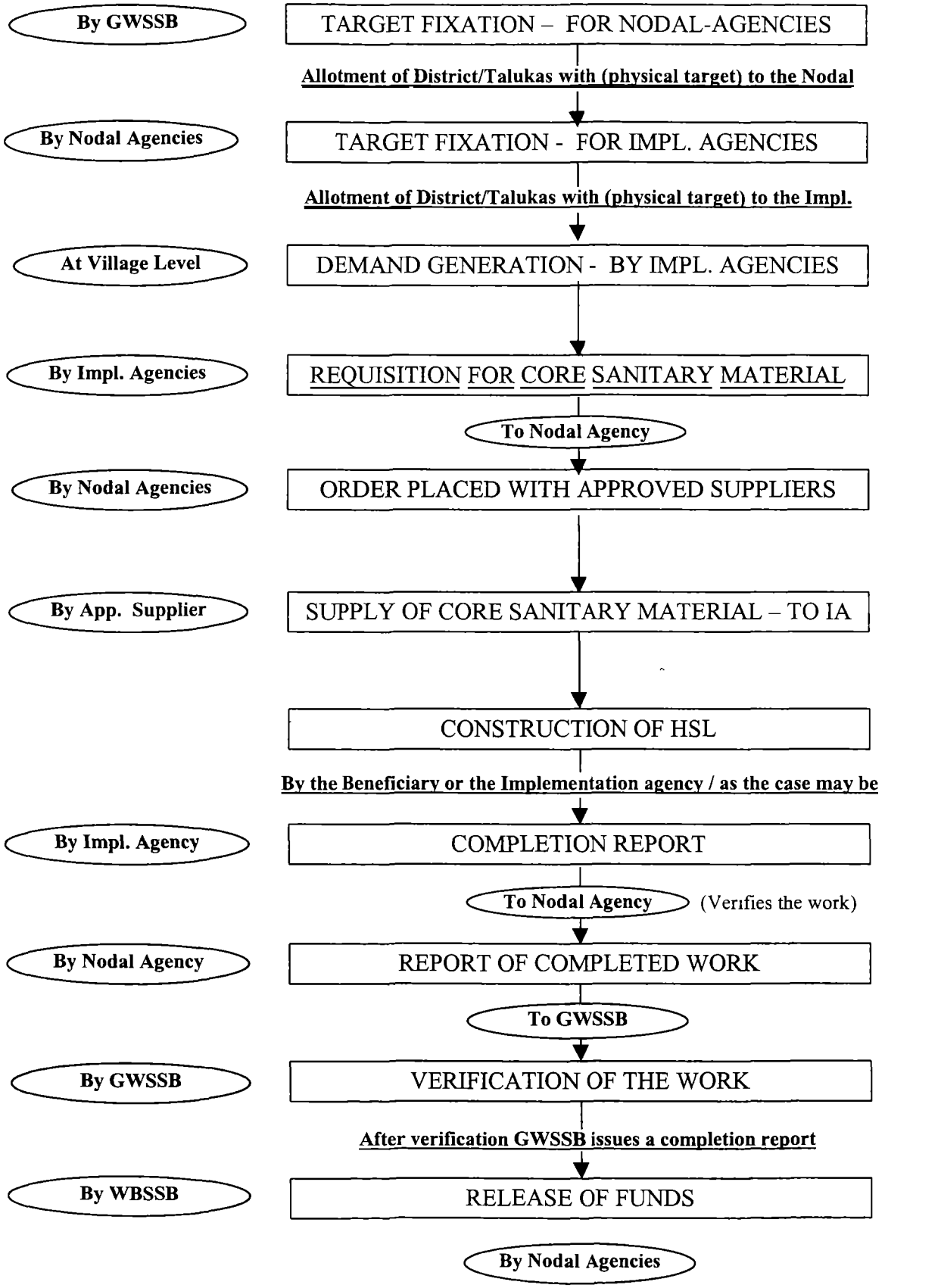
Double Pit with Honeycomb and Permanent Superstructure (with raised platform) Rs 2930



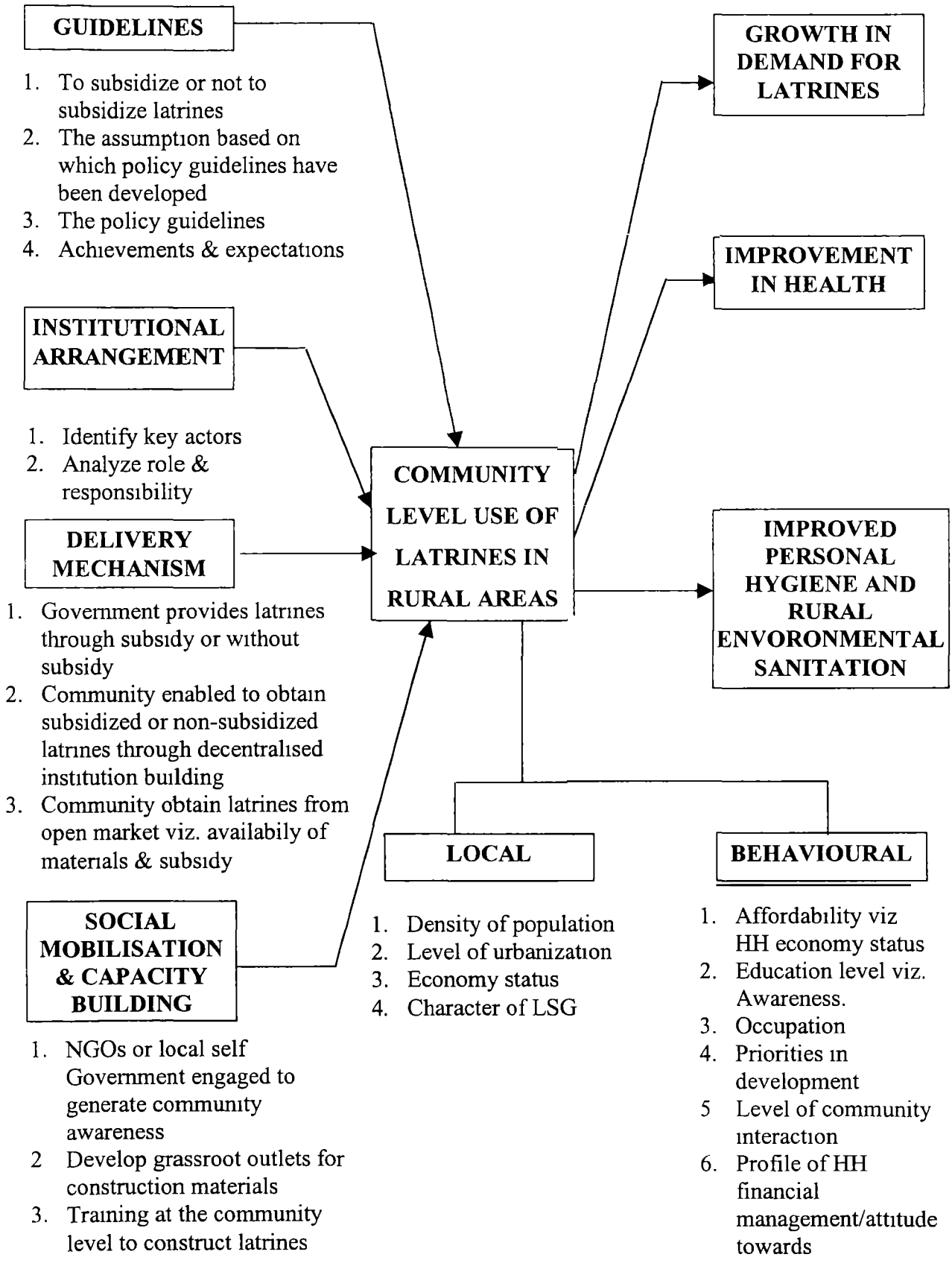
Circular Pantrap without Honeycomb (without permanent superstructure) Rs 310



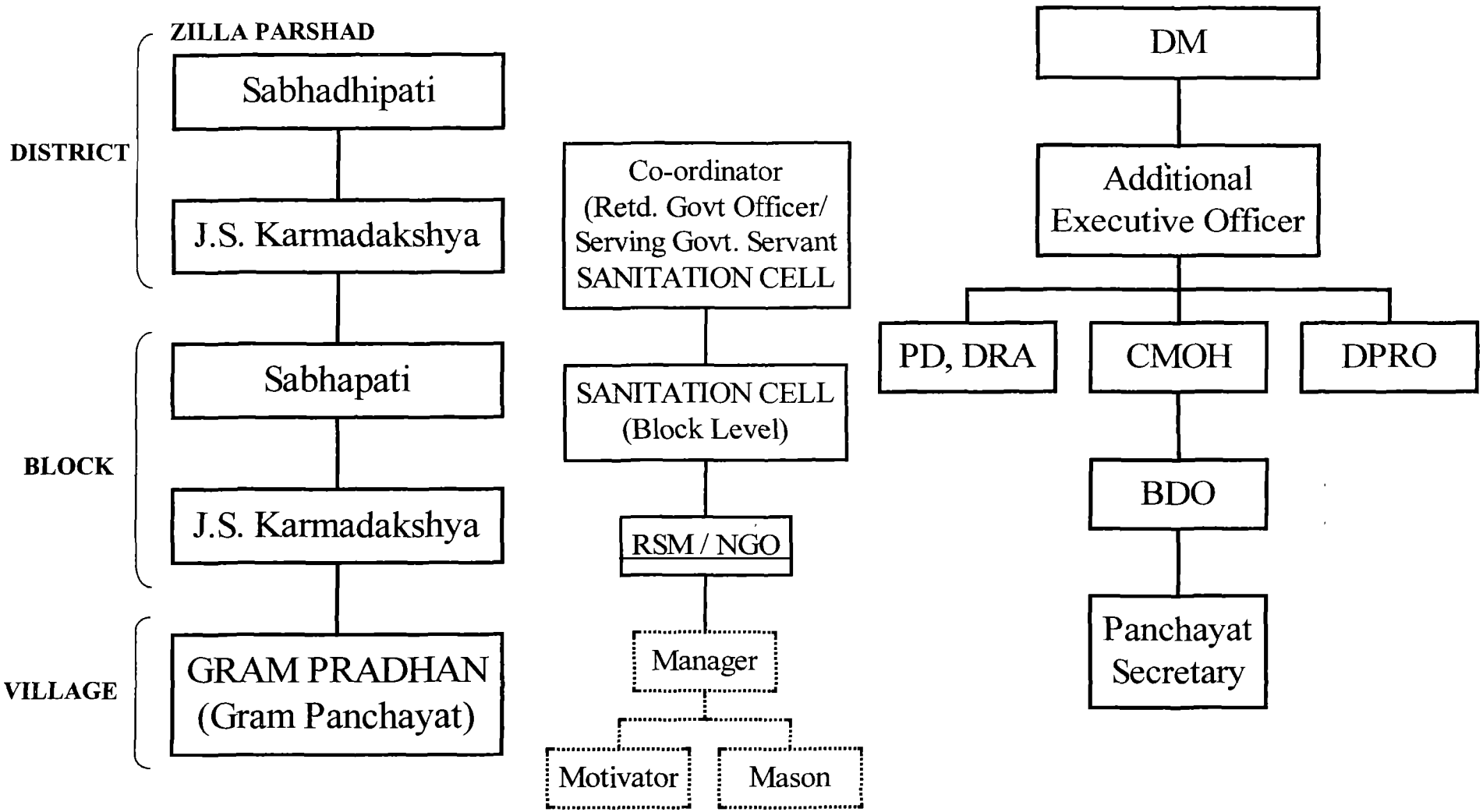
Circular Pantrap with Honeycomb (Without permanent superstructure) Rs 670



The funds are passed on to the beneficiary through the Implementing Agency


GUIDELINES
1. To subsidize or not to subsidize latrines
2. The assumption based on which policy guidelines have been developed
3. The policy guidelines
4. Achievements & expectations
INSTITUTIONAL ARRANGEMENT
1. Identify key actors
2. Analyze role & responsibility
DELIVERY MECHANISM
1. Government provides latrines through subsidy or without subsidy
2. Community enabled to obtain subsidized or non-subsidized latrines through decentralised institution building
3. Community obtain latrines from open market viz. availabily of materials & subsidy
SOCIAL MOBILISATION & CAPACITY BUILDING
1. NGOs or local self Government engaged to generate community awareness
2 Develop grassroot outlets for construction materials
3. Training at the community level to construct latrines
COMMUNITY LEVEL USE OF LATRINES IN RURAL AREAS
GROWTH IN DEMAND FOR LATRINES
IMPROVEMENT IN HEALTH
IMPROVED PERSONAL HYGIENE AND RURAL ENVORONMENTAL SANITATION
LOCAL
1. Density of population
2. Level of urbanization
3. Economy status
4. Character of LSG
BEHAVIOURAL
1. Affordability viz HH economy status
2. Education level viz. Awareness.
3. Occupation
4. Priorities in development
5 Level of community interaction
6. Profile of HH financial management/attitude towards

Institutional Framework for Sanitation Programme



Cost Efficiency And Returns From Rural Sanitation : Some Macro and Micro results

K.Pushpangadan & G.Murugan

Government in the developing world have been investing substantial amounts of their resources for the provision of drinking water and sanitation to improve the health status of their people in general and poor people in particular Government of India, for example, in this count alone has spent Rs 12504 crores in rural water supply and Rs 276 crore in rural sanitation during the period 1885/86 to 1994/95 Such investment has never been examined either for its cost effectiveness or its impact on health status This is partly due to the dearth of data for such an analysis and partly due to the public nature of the basic goods which do not usually need any such evaluation. The present paper is an attempt to develop a methodology for evaluating cost efficiency and returns from public investment in rural water supply and sanitation

The paper has two parts Part 1 provides a conceptual model of cost efficiency of and returns form sanitation emphasising its complementarily with water supply and hygiene education within the framework of Sen's capability approach. In part 2, we take up the empirical side of the two issues, cost and returns, included in the model Cost of sanitation is examined at the macro level using data from state level governmental expenditure for latrines. The returns have been analysed by examining infant mortality and incidence of diarrhoea among children below the age of five This section also contains a micro level analysis on the role of appropriate technology in realising benefits from an ongoing project on "Social cost of neglecting sanitation in high water table areas A cast study of coastal region in Kerala " Sponsored by Intermediate Technology Development Group

Part I

The first attempt to conceptualise these issues was contained in UNICEF monograph strategies in Water and Environmental sanitation (WES). The model, reproduced in Fig 1, shows that the ultimate objective of WES is to attain child survival leading to human development (UNICEF, 1995) Further it brings out the need for creating synergy and complementarily between activities of UNICEF in WES sector and in other field of support.

The realisation of benefits of WES sector, leading to well being of children and women and the empowerment of people, is indeed a complex problem which requires concerted effort at multilevel and inter-sectoral levels as evident from the diagram Moreover it presupposes the social and gender equity in the availability, access and control of these resources

This flow chart has been revised for measuring returns as given in the proceedings of the International workshop (Pushpangadan, 1998) The conceptual model is again reformulated within the framework of Sen's commodities and capabilities approach (Sen,1987) The present model given in fig.2 starts with two economic aspects – cost efficiency and sustainability - in the investment on Water Supply, Sanitation and Hygiene education (WATSANGENE) Cost efficiency especially in public provision is required to cover the maximum number of people with a given resource basis. Sustainability is required to ensure long term benefits from such investments Another important but often neglected aspect is the provision of the three components as a package for maximising the benefits (Cairncross, 1994) The model explicitly includes public and private sector separately, since both of them play an important role in providing basis levels of WATSANGENE[1] at varying degrees Once these commodities are provided then the rest of the model is nothing but an application of Sen's Capability approach (Sen,1987). Now the persons can achieve five major "functioning" from the commodity bundle

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[1] *Sen defines functioning as " an achievement of a person what he/she managers to do or to be"*

WATSANGENE1

These are · (I) Income generation
(ii) Improvement in children's education; (iii) Better nutrition; (iv) Less disease; (v) Cleanliness and better social status These functioning, if realised, lead ultimately to higher well-being gender equity

The returns from the above model are estimable only if valuation of the functioning is possible This is extremely difficult and subject to a wide margin of error (Pushpangadam, 1998). But the measurement of at least two "functioning" (better nutrition and less disease) in physical terms is possible The methodology for the measurement of nutritional loss has already been developed (Nath, 1992) In this exercise we concentrate on the estimation of health status through less diseases This along with cost efficiency is taken up for empirical verification in the next part.

Part II

Section 2.1 : Measurement of cost efficiency

Total investment in latrines is equal to the sum of private contribution and governmental subsidy Hardly any data exists on private share in the sector However, the Mishra committee report does provide data on physical achievements with corresponding financial expenditures of state and central governments during the period form 1985/86 to 1994/95 Since the expenditure is meant for 80% subsidy per latrine to poorer sections, average expenditure is taken as a proxy for unit cost State – wise estimate of this unit cost is given in **Table 1**

Since the per unit subsidy doesn't show any trend in any of the states, only the mean for the entire period is reported with its variation by range Wide fluctuations in the unit subsidy may be due to either the non-realisation of physical achievements or the inaccuracy of data Table 1 shows that subsidy is lowest in Orissa (Rs 513) followed by Rajasthan (Rs.543), Mizoram (Rs 588), Maharashtra (Rs 617) and Tamilnadu (Rs 976). Such low figures cast doubt on the quality of latrine construction. It is very disturbing to note that the subsidy given to Bihar (Rs.7657), Goa (Rs 7591), Assam (Rs.7094) and Arunachal Pradesh (Rs 5291) is more than double the permitted amount of Rs.2500/-. Jammu & Kashmir (Rs 4328) comes very much near to the above states This subsidy makes no economic sense at all since the cost has to be related to the prevailing wage rates in these states If the wage rate is the major determinant of cost, then the highest unit expenditure should have been in Punjab followed by Haryana and Kerala since these states have the highest wage rates in the country. The unit subsidy as evident from Table 1 is consistent with the wage rate hypothesis in respect of Punjab, Haryana and Kerala but not of states with higher subsidy. Therefore alternate explanations are required and we put forth the following by comparing the total stock of sanitary latrines with the physical achievements in respect of the high subsidy states

The physical stock of latrines across states has been estimated from NSSO The 49th round National sample survey provides percentage coverage of latrines across states under four categories : (I) service latrines, (ii) septic tanks, (iii) flush systems, and (iv) others. Usually governmental subsidy is available only for flush systems, but it is possible that the funds might have been used for septic tanks also Because of this reason we include flush and septic tanks in the estimation of total stock of latrines, using the following methodology.

Total stock of septic tanks and flush systems in the state is taken as the number of households with such facility The number of households in the state with latrine facility is estimated buy blowing up the sample proportions with the corresponding multiplier. This provides an authentic estimate of the total stock of latrines, in use, in the country as of 1993. The physical achievement given in the Mishra committee report is then expressed as a percentage of total stock Obviously this ratio can never be more than hundred for a given state. If it is hundred, the entire stock is attributed to the governmental effort But surprisingly this is not the case as evident from **Table 2** below.

Ratios are more than hundred for Arunachal Pradesh, Haryana, J&K, Manipur, Meghalaya and Mizoram. This can be explained only if the denominator is either an underestimation or the numerator an overestimation Take case of Arunachal Pradesh Government assisted latrines in the state are more than doubled the total stock (22%) which is simply impossible But one can put forward several explanations for this If the subsidised units are either partly constructed or not used by the community then the stock can be an underestimation The other plausible explanation is that these numbers are gross overestimates A third possibility is that the numbers are just reported without any field reality. If the value is hundred, then it implies that only governmental effort has taken place in that state which is quite unlikely since the subsidy is expected to be distributed only for those below poverty line or worst of worst one can say that the entire households are below poverty line in the state which obviously is beyond truth as evident from the estimates of Planning Commission and NCEAR The estimates etc From the above analysis, one is forced to come to the conclusion that some form of monitoring mechanism is inevitable for cost effectiveness Now let us look into the returns that can be accrued from sanitation.

While going into returns we have limited out analysis to the health status Here we take up both macro and micro of sanitation and water. In the macro side we assess the impact of potable water and sanitation and its relation with the mortality and morbidity of children Data on infant mortality rates are obtained from the Census 1991 and diarrhoea morbidity is obtained from the National Family Health Survey, 1991-1993. Coverage of Water and Sanitation is taken from the 49th round NSS Among the different functional forms tried, the one suggested by Wibowo and Tisdell was found to be statistically meaningful (Wibowo and Tisdell, 1996) The estimated equations are given below.

$$IMR = 57\ 7 + 6967\ 8\ (1/W*1/S)$$
$$R^2 = 0\ 58,\ n=16$$
$$MDB = 8\ 79 - 0\ 0015\ (W*S)$$
$$R^2 = 0\ 23, n=16$$
$$(-2\ 1)$$

Where IMR = Infant mortality rate,
MDR = percentage of diarrhoeal occurrence in any state during one day,
W = percentage of households using potable water
S = the percentage of households with latrine of any form.

The statistical analysis shows that any meaningful relationship can be established only if water and latrines are provided together This would suggest that for reducing mortality and morbidity among children the two components should be provided as a package But the accepted wisdom is that benefits will not be complete u iless hygiene education is part of the package (Kerr, 1995). An indirect evidence to this effect is given in **fig.3** given below showing the association between health education, proxies through percentage of female illiteracy, and the coverage of latrines.

Figure 3 indicates that lower the illiteracy higher the coverage and use of latrines Therefore this can be treated as indirect evidence to show that morbidity can be further reduced and mortality can even be annihilated or reduced considerably with improved hygiene education.

In this context it is worth mentioning that even if all the three components for good health i e., Water Sanitation and Hygiene education are imparted among the people it need not be translated into health benefits unless appropriate cost effective and locally adaptable technology is made available This is illustrated through the preliminary information available from an ongoing project, sponsored by the Intermediate Technology Group In the coastal regions of Kerala the occurrence of water borne and sanitation related diseases is a perennial problem despite huge governmental as well private investment Among the 1892 households surveyed in the region, even during the summer sanitation related diseases. A further classification of these households by coverage of water and by sanitation are given in below

Table 3.
Percentage of Population with Water borne diseases by Sex and by type of facility

Households	Male	Female
Potable water alone	10 9	19 7
Latrine only	14.0	15 3
Both latrine and potable water	11 0	17.0
No latrine and no potable water	11.3	20 4

Source Primary survey (1998)

Apparently the above figure seem to show the following (I) Individual effect is not clear cut. ii) females do have a higher incidence of diseases, and iii) incidence rates among the population with and without facilities seems to be not much different It is an accepted view that water and sanitation can reduce about 25% of the incidence of diarrhoeal diseases (Cairncross and Kochar, 1994). By this standard the reduction in these households is quite minimal This can be explained if we examined the technology of latrines and the hydro geological peculiarities of these coastal regions.

The survey results show that the conventional pit latrines and flush toilets (coverage 18%) were found to be practically not functional due to water logging During rainy seas on faecal matters from such latrines come up and freely float around contaminating the surrounding. Moreover since the area is sandy region faecal matter especially e-coil, from these latrines could travel up to 50 M^2 there by polluting the water sources and the environment in other seasons (Franceys et al 1992) As a result persons with latrines are more prone to such diseases This partly explains why the households with both facilities do not show a substantial reduction in morbidity, as one would expect The only option for making such investment effective is to develop appropriate technology for such regions *Compost latrines* introduced not only reduce the contamination of the surroundings but also recycles the faecal matters as manure the process of composting

Summary and conclusion

A conceptual model of investment in Water Supply, Sanitation and Hygiene Education is developed within the framework of Commodities and Capabilities with cost efficiency and sustainability Cost efficiency of public subsidy for latrine and the impact of potable water supply and sanitation coverage on infant mortality and morbidity have been examined empirically using state level data. Results show the subsidy for selected states are more than double the amount permitted An economic analysis of the unit subsidy seems to suggest that there is an urgent need for monitoring the utilisation of resources in the sector. Statistical analysis indicates that only joint provision of water supply and sanitation can bring down the infant mortality and morbidity. It is also found that the female illiteracy is lower among states with higher latrine coverage and vice versa. Hence Information, Education and communication particularly among the females can substantially improve the coverage of latrines and reduction in mortality and morbidity.

Micro level study of a high water table area in Kerala suggests that the public subsidy is a gross waste in such areas unless the appropriate sanitation technologies also form part of the subsidy

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Table 1.

Statewise government expenditure per unit sanitary latrine, 1985/86-94/95.(in Rupees)

State	Unit expenditure		Period
	Mean	Range	
Andhra Pradesh	1602	467-2150	85/86-94/95
Arunachal Pradesh[1]	5291	2590-21338	85/86-93/94
Assam[2]	7094	2306-200000	86/87-93/94
Bihar[3]	7657	2559-89375	87/88-94/95
Goa[4]	7591	2631-15639	85/86-94/95
Gujarat	1818	865-2683	89/90-94/95
Haryana	1962	957-1970	87/89-94/95
Himachal Pradesh	1198	1078-1248	86/87-94/95
Jammu & Kashmir	4328	1605-6784	89/90-94/95
Karnataka	1314	664-4908	85/86-94/95
Kerala	1896	743-2467	86/87-94/95
Madhya Pradesh	2374	-	93/94
Maharashtra	617	250-1202	85/86-93/94
Manipur	1404	775-5040	87/88-94/95
Meghalaya	1949	1472-3530	87/88-93/94
Mizoram	588	-	89/90
Nagaland	2181	810-4693	85/86-93/94
Orissa	513	447-1208	87/88-96/95
Pondicherry	2022	780-7231	88/89-93/94
Punjab	2575	1398-4582	86/87-94/95
Rajasthan	543	343-1221	86/87-93/94
Sikkim	1217	482-2740	86/87-93/94
Tamilnadu	976	651-5007	86/87-94/95
Tripura	1625	547-5200	86/87-94/95
Uttar Pradesh	1630	489-2602	87/88-93/94
West Bengal	1812	1089-2563	85/86 91/92
Total (all India)[5]	1709	1325-2127	----

Source : Mishra Committee Report (1994), Government of India

Note :

[1]*In 1986 /87, 26 15 lakhs were spent under minimum Need Program (MNP) and the physical achievement was only 124*

[2]*In 1992/93, 40 lakhs were spent under MNP and the physical achievement was only 20 against a target of 3600*

[3]*In 1989/90, 43 lakhs were spent under Central Rural Sanitation Programme (CRSP) and the physical achievement was only 48 against a target of 2509*

[4]*In 1991/92,10 2 lakhs were spent under CRSP and the achievement was Nil as against a target of 250*

[5]*Excluding Union Territories*

Table 2.

State –wise estimates of total and governmental subsidised latrines in 1993.

State/UT's	Total no. of latrines (1)	No. of Government Subsidised latrines (2)	Column (2) as % of Column (1)
Andhra Pradesh	604719	106905	17 68
Arunachal Pradesh	2044	4528	221 55
Assam	246988	1833	0 74
Bihar	471512	3971	0 84
Goa	16384	5774	35 24
Gujarat	731178	58965	8 06
Haryana	79196	125454	158 41
Himachal Pradesh	96897	93413	96 40
Jammu & Kashmir	10286	11484	111 64
Karnataka	440941	51035	11 57
Kerala	1060544	12700	1.20
Madhya Pradesh	135954	68	0 05
Maharashtra	515627	24757	4 80
Manipur	5311	7707	145 12
Meghalaya	8107	8417	103 83
Mizoram	2291	2291	100 00
Nagaland	4277	3874	90 58
Orissa	78141	28775	36 58
Pondicherry	3156	2487	78 79
Punjab	368758	50794	13 77
Rajasthan	244209	62832	25 73
Sikkim	11402	10218	89 62
Tamilnadu	569580	68838	12 09
Tripura	11616	4308	37 09
Uttar Pradesh	757946	388080	51 20
West Bengal	770640	13428	1 74
All India	7247704	1152936	15 9

Source : 1. Mishra committee Report (1994),
2. NSSO 49th round

LATRINES BUILT AND USED - CHANGES ACHIEVED AND THE REASONS

SCOPE

A report on the study conducted in the target villages Integrated Water Supply Project Implemented by SCOPE with the assistance of WaterAid

The History

The area was the four villages Devarpuram, Muttapatty, Peramangalam and Kattukulam The period is just before the beginning of 1996 As far as the economy, sanitation, and hygiene behaviours were concerned, the situation in these villages and the neighbourhood was not different from most of the Rural India The people were very poor and added with ignorance latrine could not find a place in their long list of needs In a situation where people found difficulty in securing their daily bread or even water, it was understandable that latrine was relegated as unnecessary to lead their daily life

In these villages, a household latrine was generally unheard of and mostly unwanted People did not have any knowledge on the link between poor sanitation and diseases A nearby village, Moovanur, had some latrines, constructed as part of Government housing programme These were treated only as additional space available and none was used for the purpose intended This is just an example of the fate of many sanitation programmes. The situation can be best described as, "Total lack of sanitation, also the people were not aware of the need or means to improve the situation "

SCOPE had selected all the above villages for the integrated Water Supply programme to be implemented with the assistance of WaterAid. The work began with the assessment of the situation The main areas to be addressed were identified as, Wrong notions on cost, the life of pit (people thought the pit will fill soon), smell, and Lack of knowledge and awareness on diseases The obstacles to overcome were the prevailing superstitions, cultural beliefs, and restraints among people especially women to discuss latrines. Latrine was not an easy subject and it received little response from the people The women generally take initiative to participate, but when it came to sanitation, were too shy to discuss their defecation behaviours

Based on these initial findings SCOPE evolved a clear strategy giving specific attention to each of the issues. The systematic hygiene education and continuous coverage of the topic "Latrine" in the community meetings encouraged the people and a few families came forward to construct latrines SCOPE helped these families to construct the low cost latrines These were used, as models to convince others on the claims about – low cost, no smell and easy use With patience and commitment, SCOPE was able to make inroads in to the unconquered territory of household latrines The success was surprising and encouraging At the end of one year, February 1997, 239 latrines constructed against a target of 140

The Impact Study 1 (Feb 97) and Findings:

People's participation and conviction was very evident, still Mr Shunmuga Paramasivan, the Country Representative of WaterAid who was closely in touch with the programme by his timely guidance and suggestions, did not want to leave anything to doubt on the usage

He requested for a survey on usage pattern of the latrines that had already been constructed The survey was done and a separate detailed report is available The findings and the analysis are summarised as below -

1 The usage was very less in the age group 35 (both sexes) and above, reasons were analysed

as, for this group it was difficult to give up the old habit

2 Less usage among men compared to women (Only 38% whereas for women it was 74%), reasons being men generally leave home for fields early in the morning where they find access to open area and water from the farm wells

3 More usage among youth (15-34), being young they are quick to adapt to changes and are influenced by peer pressure

4 School going children, having the exposure to school latrines and hygiene education, change their behaviour and also act as catalysts in bringing a latrine home

5 Space availability has been an obstacle in making people build latrine People do not want a latrine too close to their houses

6 Some occupations, which necessitate frequency to towns or other establishments where people are bound to use latrines has an influence on people's behaviour

7 Availability of water and the distance of the source are factors affecting the usage patter Where there is shortage of water and a long distance has to be covered to collect water, the usage of latrine is less

8 Even where sufficient water is available, need for storage containers restrict water collection and reduce the number of latrine users.

9 An addition of bathing space in the latrine has influenced the women to use latrines

10 Sanitation promoters have greatly contributed to the success of the programme

11 Trained Sanitary masons have helped in the quality constructions and motivated many to build latrines

12 Access to easy credit has helped the people to exercise their choice of model

13 Kitchen gardens has favourably affected building latrines and making people use them

14 Hygiene Education has been a key factor in motivating people

LESSONS LEARNT - REVISION AND IMPROVEMENT TO THE APPROACH:

The study revealed that though the sanitation programme has been successful, it could be a total success only if all the target population irrespective of gender and age are using latrines To bring this into effect, the approach was revised and improved in the following aspects

1 Men are to be appropriately covered under the hygiene education and motivational programmes The programme should address their problems and constraints With focussed attention on them their behaviour can be changed

2 Water availability must be sufficient taking into account people's need of water after improvements in their behaviour. People must be facilitated to act on their decision to change

3 Emphasis will be continued on the factors which have helped in motivating people to build and use latrine – e g Hygiene education, Interaction with community organisations, Low cost and Credit scheme, Sanitation promoters, Kitchen Gardens, Bathing Space etc ,

4 Exposure of people to areas where the programme was being carried out effectively Enabling them to view many models and systems

5 Enhancing the credit availability and Community Management of finance- to accelerate the process and expand the reach

6 Improving the School sanitation and hygiene education programme to cover more children and in turn to create more impact

7 Consider the options of bringing the Sanitary Market to the villages through the Rural Sanitary Marts and Production through Local Production units

8 Explore the opportunities to effectively combine the Improved Hygiene Behaviour and Community Income Generation activities like Soap Making

9 Educating people on the safe disposal of faeces of children who can not use latrines

10 Designing of the latrine cum bath was improved to include small water tank and soap wrack, which solved the problem of water containers and helped people to use latrines and wash hands

THE IMPACT STUDY 2 (FEB 98) AND · FINDINGS:

With this revised orientation, the second year programme was commenced The hygiene education continued in the old villages, and also new villages were taken up The study conducted in February 97 and the findings were very useful in assessing what we have done, was encouraging in realising that we were successful and have every potential to improve In February 98 a further study was conducted in the same four villages and five new villages (Kollanpatti, Chirucholanpatti, Patchirampatti, Rayapatti and Velakkanatham) This was on the similar lines as the earlier study and the intention was to assess the impact of the revised approach The details of findings of the study are available in the enclosed tables Summary of findings and the further steps necessary are narrated below

1 By appointing male field workers it was easier to approach men address their specific problems under the hygiene education and motivation programmes After giving special attention to the men there is significant change in men using latrines (Increased from 38% in Feb 97 to 61% in Feb 98)
2 The ratio of change among the people above the age of 35 is less compared to the younger people, and they have to be continuously and patiently addressed with hygiene messages
3 Intensifying school health activities has brought in more teenage users of latrine This approach has to be preserved and we can hope for a future generation of convinced latrine users
4 The safe disposal of children's faeces children using latrines has improved.
5 It has been ensured that in the target villages the water availability was sufficient and that the water source was not very far off to dissuade people from using latrine (E g During the last study in Feb 97, in the village Kattukulam water scarcity was found to be the major reason for people not using latrines People were made aware of the need for more water The village was under the supply of OHT and pipeline The Sangam in the village approached the local authorities and was successful in increasing the number tap outlets thus bringing water within closer distance and in sufficient quantity for their latrine usage
6 Water need was assessed in relation to the people's improved hygiene behaviour Water sources were estimated taking this into account
7 The education programme now includes the clarity that a latrine located close to house is not in any way harmful Now people accept a latrine closer to their house this reduction in distance acts as a motivating factor for using All new works both in the old and new villages ensure that the location of the latrine is not beyond 20 metres
8 Clarity that a latrine close to house is acceptable has also persuaded people to built a latrine in the available space Earlier the same people thinking they need more space than they had not built a latrine
9 The credit net has been widened and strengthened to support the people financially This has sped the transfer of management to people and works towards reducing the subsidy
10 Based on the experience and the lessons learnt, the second year works has generated greater and quicker impact The reasons are need-based approach and impact on the models already created and in use

CONCLUSION:

The two years' works and experiences have enlarged our vision and knowledge in many ways Planning, and timely reviewing has proved to be essential for the programme to evolve a realistic approach This programme has not only fulfilled the needs of the specific target community but has been an experiment for the wider sector The existing situations have been explored and programme was designed specific to the needs The studies conducted and the findings provide a lesson to effectively implement a community based sanitation programme Learning is a continuous process and implementing a programme is learning through out, understanding the community – its needs and perceptions The programme will continue reaching the people and learning from them

FINDINGS OF STUDY CONDUCTED IN SCOPE TARGET VILLAGES
(Comparative Analysis)

VILLAGE NAME	Devarpuram		Mettupatti		Peramangalam SC colony		Kattukulam		Total		Kollanpatti	Chiricholanpatti	Patchirampatti	Rayapatti	Velakkanatham	Total
	InFeb 97	InFeb 98	InFeb 97	InFeb 98	In Feb 97	In Feb 98	In Feb 97	InFeb 98	InFeb 97	InFeb 98	InFeb 98	InFeb 98	InFeb 98	InFeb 98	InFeb 98	InFeb 98
TOTAL FAMILIES	64	64	70	70	18	18	96	96	248	458	47	36	49	81	80	293
LATRINES CONSTRUCTED	64	64	35	63	16	18	46	95	161	320	37	22	31	38	64	192
COVERAGE %	100	100	50	90	89	100	48	99	65	70	79	61	63	47	80	66
TOTAL POPULATION OWNING LATRINES	386	391	190	311	102	107	234	474	912	1727	184	99	159	160	287	889
MALE	197	199	101	162	53	56	122	246	473	897	95	53	84	82	152	466
FEMALE	189	192	89	149	49	51	112	228	439	830	89	46	75	78	135	423
USAGE MALE	89	140	30	72	19	24	40	171	178	413	50	29	43	45	82	249
USAGE MALE %	45	70	30	44	36	43	33	70	38	46	53	55	51	55	54	53
USAGE FEMALEUSAGE	154	163	60	96	32	39	77	203	323	642	74	39	63	63	115	354
USAGE FEMALE %	81	85	67	64	65	76	69	89	74	77	83	85	84	81	85	84
USAGE TOTAL	243	303	90	168	51	63	117	374	501	1055	124	68	106	108	197	603
USAGE TOTAL %	63	77	47	54	50	59	50	79	55	61	67	69	67	68	69	68

FINDINGS OF STUDY CONDUCTED IN SCOPE TARGET VILLAGES (Comparative between Feb 97 and Feb 98)									
Location of Latrine (Distance in Meters) from House									
Sl No	Distance in Meters	Earlier* Villages		New Villages					
		Before (InFeb97)	After (inFeb98)	Kollampa	Chinchampa	Pachampa	Rayapa	Velakkandam	Total
1	1-3	47	104	16	10	16	18	37	97
2	4-10	80	90	12	6	8	16	22	64
3	11-15	24	31	6	3	4	2	3	18
4	15-20	7	12	3	3	3	2	2	13
5	>20	3	3	0	0	0	0	0	0
	Total	161	240	37	22	31	38	64	192

*

The Earlier villages include Devarpuram, Mettupatti, Peramangalam and Kattukulam The figures are the consolidated total of all the four villages

Of the 79 latrines built in the old villages in the second year 67 (85%) have been built within 10 metres

In the new villages of the 192 latrines built, 161 (84%) have been built within 10 meters

During the second year works no latrine has been located beyond 20 meters

Distance of Water Source from House (In Metres)									
Sl. No.	Distance in Meters	Earlier Villages		New Villages					
		Before (In Feb 97)	After (In Feb 98)	Kollanpatti	Chrucholanpatti	Patchirampatti	Rayapatti	Velakkanatham	Total
1	>30	61	103	15	3	3	15	33	69
2	31-50	43	63	6	12	21	21	21	78
3	51-80	22	32	8	6	4	3	6	27
4	81-100	19	26	8	1	3	2	4	18
5	101-150	8	8	0	0	0	0	0	0
6	151-250	4	4	0	0	0	0	0	0
7	>250	4	4	0	0	0	0	0	0
	Total Units	**161**	**240**	**37**	**22**	**31**	**38**	**64**	**192**

Table 1: The findings in the four villages Devarpuram, Mettupatti, Peramangalam SC Colony and Kattukulam The figures are consolidated total of all the four villages

FINDINGS OF STUDY CONDUCTED IN SCOPE TARGET VILLAGES																		
Age Groupwise information on Latrine Usage																		
		BEFORE-INFEBRUARY 1997									AFTER - IN FEBRUARY 1998							
Sl No	Age Group	People With Access to latrines			People using latrines						People with Access to latrines			People using latrines				
		Male	Female	Total	Male	%	Female	%	Total	%	Male	Female	Total	Male	%	Female	%	Total	%
1	0-3	31	28	59	0	0	0	0	0	0	42	40	82	5	12	5	13	10	12
2	4-10	42	36	78	19	45	22	61	41	53	73	58	131	33	45	42	72	[illegible]	57
3	11-14	91	84	175	42	46	49	58	91	52	133	173	306	64	48	90	52	154	50
4	15-34	195	183	378	86	44	180	98	266	70	233	238	471	189	81	220	92	409	87
5	>=35	114	108	222	31	27	72	67	103	46	182	168	350	116	64	144	86	260	74
	Total	473	439	912	178	38	323	74	501	55	663	677	1340	407	61	501	74	908	68

Table:2 The findings from five new villages selected for survey (Kollanpatti, Chirucholanpatti, Patchirampatti, Rayapatti and Velakanatham)
The figures are the consolidated total of the villages –

FINDINGS OF STUDY CONDUCTED IN SCOPE TARGET VILLAGES FEB 98										
Age Groupwise information on Latrine Usage in the New Villages selected in Feb 97										
Sl No	Age Group	People with Access to latrines			People using latrines					
		Male	Female	Total	Male	%	Female	%	Total	%
1	0-3	24	21	45	7	29	7	33	14	31
2	4-10	42	51	93	25	60	34	67	59	63
3	11-14	65	57	122	40	62	50	88	90	74
4	15-34	184	168	352	105	57	161	96	266	76
5	=35	151	133	284	72	48	102	77	174	61
	Total	466	430	896	249	53	354	82	603	67

India : Rural Sanitation Programme

UNICEF

Annapoorna Dixit

The Constitution of India

Article 39, Directive Principles of State Policy

The State shall, in particular, direct its policy towards securing that children are given the opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment

The Convention on the Rights of the Child UN 1989

The Government of India acceded to the Convention on 11 December 1992

Article 24 State Parties recognise the right of the child to the enjoyment of the highest attainable standard of health State Parties shall pursue the full implementation of this right, and shall take measures to combat disease and malnutrition, through the provision of adequate nutritious food and clean drinking water to ensure that parents and children are informed and are supported in the use of basic knowledge of child health and nutrition, the advantage of Hygiene and environmental sanitation

The problems related to the lack of sanitation and hygiene

India, is the second-most populous country in the world, a land of great diversity and complexity, where even a lifetime is insufficient to know the country and its people well The country is often associated with appalling poverty, hunger and disease, squalor and degradation, open defecation along paths, roads and railway tracks The image of girls and women, walking out before dawn or just after nightfall, to relive themselves, is all too common Even today, more than 570 million rural people defecate in the open, contributing to severe environmental pollution, exacerbated by increasing population densities

In 1997, the population of India was about 960 million, expected to cross the one billion mark

before the year 2000 Every year, close to 27 million children are born, 75 per cent in rural areas Despite improvements in child survival over the past 45 years, India has close to 3 million child deaths every year, the same as in 1974 Girls die at a rate 50 per cent more than boys. Open-air defecation, unsanitary practices and the use of contaminated water cause diarrhoea and ill health, which account for nearly 500,000 child deaths annually

India - 1997:

The rural population of 720 million, growing at a rate of nearly 2% per annum, with more than one-third classified as poor:
The lack of sanitation is a significant factor in malnutrition, which impairs the growth of more than half, nearly 60 million, of India's children The under-five mortality rate reflects the effects of both malnutrition and common infectious diseases. Conversely, when personal hygiene is poor and the environment dirty, young children are more prone to infection by intestinal parasites, a major cause of poor growth and malnutrition

Units	Number of units	Av Pop. Per unit	Average no. households	Households without toilet
District	500	1,440,000	288,000	230,000
Blocks	5,200	138,000	27,600	22,000
Village Panchayat	217,300	3,300	615	490
Villages	587,000	1,225	225	180
Hamlets (habitation)	1,319,000	540	100	80

Over 70 per cent of the health problems faced by children in primary schools are caused by inadequate hygiene Less than 10% of rural primary schools have adequate toilets and only half have a safe source of drinking water Monitoring the status of child heath and related factors is weak or non-existent

These factors directly undermine and prejudice the child's right to survival and the highest attainable standard of health Low awareness of the importance of hygienic practices diminishes the advantages of access to safe water. The failure to assure access to safe water and a clean environment also deters parents from sending their daughters to school and denies many girls the right to basic education

For nearly 40 years following independence few gave the lack of sanitation and hygiene much thought When in the 1970s, the Government scaled up the infrastructure to provide safe sources

of drinking water for the rural millions, there was virtually no activity to promote the use of toilets and hygiene practices in the country. Yet, in little over ten years, Government and the people of India are slowly coming to grips with the tremendous challenges of environmental sanitation and hygiene

The Rural Sanitation Programme

India has a federal system of government, with a Central Government and 25 State Governments and 6 Union Territories Under this system, the State Governments are responsible for the social development of their people. The Rural Sanitation Programme (RSP) is among a wide range of social sector programmes executed by the State Governments. The Central Government determines national sectoral policies, in consultation with the State Governments. The Central Government also makes available substantial grants to the States, which generally must be matched with equal amounts from the State Governments' own resources

The following table shows how the India Rural Sanitation Programme has developed, how it changed as implementation provided major lessons, and how UNICEF involvement in sanitation contributed to the development of the Rural Sanitation Programme.

How the Programme developed: the process of continuous learning

Year	Programme development	Major lessons learned	UNICEF's involvement
1980s	Government efforts in home toilet construction started under the National Rural Employment Programme and the Rural Landless Employment Guarantee Programme	These efforts were found to be inadequate, and by 1986 it was realised that more was needed to reach the Seventh Plan goal of 25%	From 1981, UNICEF involved in sanitation, supporting subsidised toilet construction, but also hygiene promotion
1986	The Central Rural Sanitation Programme (CRSP) was started to provide home toilets A target of 25% coverage was set for 1991 CRSP provided full subsidy for poor households and minority groups Others had to contribute part of the costs The 1986 CRSP guidelines mention the need for health education, for which the States are advised to launch mass communication schemes	Slow disbursement of funds, poor reporting by States Almost no attention to hygiene education	In 1986, when CRSP started, UNICEF changed focus to training, with subsidised toilet construction limited to select districts only
1988	In 1988, the Central Government advised the States to set up Sanitation Cells, consisting of at least three members, to be responsible for formulation and planning of sanitation programmes, to provide technical and training support and to co-ordinate interdepartmentally for sanitation	Implementers realised that fully subsidised toilets are not always used as these are not necessarily a felt need of the poor, that the whole community should be targeted and that CRSP should not merely construct toilets but include personal hygiene, drainage improvements, etc	In 1989, UNICEF completed a countrywide KAP study on water, sanitation and hygiene In 1989, UNICEF and an NGO introduced self-financing of toilets
1991-1992	Revised CRSP guidelines (1991) required households in all categories to contribute towards the cost of toilets 5% for the poor, up to 20% for others Up to 10% of the annual outlay was made available for IEC for sanitation and hygiene The target was lowered to 10%, to be reached by 1995	The 1991 national census showed that nearly 10% of households had a toilet Many households built their toilets without government subsidies Rather than aiming for a specific target, it is more important to purse a strategy, which gives sustainable results in a cost-effective manner	To make toilets more affordable, a range of toilet design options was defined and promoted UNICEF pioneered the concept of the concept of the Rural Sanitary Mart (RSM), a commercial retail outlet specialising in all materials needed for hygiene
1993	Revised CRSP guidelines limit subsidies to very poor households only, at 80% of the cost Various toilet designs are indicated Up to 10% of the annual budget is allocated for demand creation CRSP funds can be used for setting up Rural Sanitary Marts No specific target is set		The concept of toilet upgrading was introduced Training of women as masons started By 1994, about 100 RSMs were operational in six States
1995	Central Government issued guidelines for the preparation of action plans for the promotion of sanitation For implementation, the plan gives details for the required infrastructure form State to Village Panchayat level	Implementation by the States remains slow The States indicate a lack of funds to meet their half of the costing of action plans to promote sanitation	School sanitation was taken up on a larger scale
1996	Central Government issued a guideline on a range of sanitary toilet designs, ranging in cost from US$ 10 to $ 100 The guideline also gives information on sanitation upgrading, encouraging households to start with a simple, cheaper, toilet design which can be upgraded later, moving up the sanitation ladder		UNICEF continued reducing contributions for toilet subsidies
1998	A national sanitation workshop for all secondary stakeholders is planned for July 1998, which will give recommendations for further revisions to the CRSP guidelines	Results of the baseline study of KAP on water supply and sanitation in 60 IEC districts completed Work in progress to revise IEC for hygiene promotion strategy based on study findings	In the new MPO for 1999-2002, UNICEF ends all subsidies for toilet construction

Increasingly, Government is accepting sanitation as more than just the construction of toilets. The Government is gradually operationalising a seven-component 'sanitation package' including: safe handling of drinking water, disposal of waste water, safe disposal of human excreta including that of children, disposal of solid waste including cow dung, home sanitation and food hygiene, personal hygiene and village sanitation

Recommendations of the 1994 RSP Expert Committee have added voluntary action as a new dimension to the strategy for accelerating sanitation coverage. The 1996 Committee on Technology Options for the Rural Sanitation Programme has suggested a range of designs for sanitary facilities to suit user preferences It is necessary to evolve a mechanism to put these recommendations into practice

The 1995 national IEC strategy for the water and sanitation sector is a significant move by Government, aiming to improve hygiene practices as well as community participation in water supply and sanitation, through social mobilisation and hygiene education and motivation.

Although school sanitation is not yet an integral component of RSP, Central Government is increasingly aware of the huge potential of schools as a channel for promoting sanitation and hygiene While the Government Tenth Finance Commission has recommended special allocations for providing water supply and sanitary facilities in schools, as part of the school upgradation strategy, there is as yet no arrangement for hygiene education in schools, and through schools to communities Promoting sanitation and hygiene through schools has been a major recommendation of the RSP Expert Committee. In 1996, Government launched the National School Health Check-up Scheme which gives an opportunity to link water and sanitation with health interventions, as over 70 percent of student ailments related to, or are made worse by, a lack of personal hygiene and/or insanitary conditions in school or at home

Recent years have seen a breakthrough at the local level when entire communities have worked together, often with the support of NGOs and government, to expand sanitation in their areas. The entire districts of Medinipur in West Bengal and Periyar in Tamilnadu have seen an astonishing expansion in sanitation coverage through voluntary action backed by loans, self-financing of construction of appropriately designed latrines and accompanying changes in hygiene behaviour In both districts, efforts have concentrated around the schools and among school-age youth whose involvement helps to change traditional notions of sanitation and public hygiene in households Youth clubs have encouraged communities in latrine construction and use The challenge now is to move these experiments to scale

RSP funding

From 1986-1991, Central Government allocated about US$ 25 million per annum for rural sanitation However, the absorptive capacity of the programme in the States was very low, especially during the initial years From 1991-1996, this amount was increased in local currency terms but the US$ equivalent remained about the same The State Governments spend approximately equal amounts on RSP, using their Minimum Needs Programme (MNP) funds.

In 1995-96, Government expenditure for rural water supply and sanitation was about US$ 730 million, or about US$ 1 per person Investments for sanitation were less than US$ 50 million, or 7 per cent of total expenditure The proportion spent on IEC is not more than 0 7% of total investments In 1996, UNICEF spent about US$ 5 million on sanitation, or 10% of the Government investments

RSP: an assessment

Within the overall policy guidelines provided for the use of Central Government CRSP funds, the State Governments practice widely different policies for subsidising home toilet construction While a few States have lowered the subsidies even for the poor much below the levels allowed under the CRSP rules, other States use their own resources and subsidise at levels higher than allowed by CRSP, and/or subsidise construction by households not belonging to the poor After more than a decade of implementing the Rural Sanitation Programme, achievements are as follows

- **In increasing home toilet coverage**. After more than a decade of implementation, the Rural Sanitation Programme (RSP) can claim to have contributed to more than doubling the proportion of the rural households which have a toilet People using their own resources than through RSP subsidies build far more toilets From 1991 till 1994, RSP subsidised less than half a million home toilets per annum, which added about 1 5% to the national coverage figure. Various surveys indicate that a large majority of toilets is used, especially those constructed by users at their own cost, and particularly by women. However, a 1992 survey found that less than 25% of children use their home toilet

- **In catalysing hygiene behavioural change** The Rural Sanitation Programme has not yet made significant changes in hygiene behaviour among the rural masses Systematic work on hygiene promotion started only from 1996, limited to 60 of the 585 districts in the country The State Rural Development Departments and Water Supply Agencies, which are responsible for implementing RSP, are all too often inclined to take an engineering approach to rural sanitation focusing mostly on toilet construction To the engineering staff of these departments, even the construction of toilets is not as attractive as engineering water supply schemes These departments are also devoid of specialists in IEC or hygiene education

- **In policy development.** RSP has shown considerable flexibility and agility in adjusting programme policy, making adjustments as lessons are learned in implementation After the CRSP guidelines were issued in 1986, this policy document was amended in 1991 and 1993 Another amendment is expected soon after the 1998 National Seminar on Sanitation

- **Institutional capacity building.** As explained above, the responsibility for RSP implementation is with largely technical agencies, which have other substantial programme to execute Within their overall workload, RSP is but a small component. Unlike the rural water supply programme, RSP requires community participation and household contributions. RSP is low-tech, with a comparatively small budget, requiring substantial efforts to execute, monitor and report on The IEC component of RSP is undoubtedly the most difficult for the State Departments to execute. In nearly all States, there is a blanket ban on the recruitment of additional civil servants Under these circumstances, the small State IEC Cells almost invariably lack the required manpower and expertise

Rural Sanitation in India 1997:

Progress on the seven components of sanitation

Component	Indicator	Status	
		1986-89	1996-97
Safe disposal of human excreta	Use of sanitary toilet	10%	20%
Personal hygiene	Hands are washed with soap or ashes, after defecation and before eating and feeding	33% after toilet	40% after toilet 10% before eating 7% before feeding
Safe handling a storage of drinking water	Drinking water kept in clean, covered vessel, where fingers do not touch the water while drawing it	46%	66%
Village sanitation	No excreta, stagnant waste water, waste in village	?	?
Disposal of waste water	No stagnant water around water supply source	?	?
Disposal of garbage and cattle dung	Use of a garbage pit	55% (home garbage)	?
Home sanitation and food hygiene	?	?	?

The IEC action plan for hygiene promotion intends to have a well-defined set up

⇒ **At Panchayat - level:**
- A sanitation motivator, preferably a women
- A Water Supply and Sanitation Committee

⇒ **At Block level :**
- Two block-level co-ordinators
- A Block Water Supply and Sanitation Committee

⇒ **At District level :**
- A District Co-ordinating Agency (4 professionals)
- A School Sanitation Cell
- A District Water Supply and Sanitation Committee

⇒ **At State Level**
- An IEC Cell (1 sanitation expert, 1 drinking water expert, 1 consultant)

Additionally, each Village Panchayat has anganwadi workers, schoolteachers, primary health care workers, handpump caretakers and mechanics, all of whom have been exposed to hygiene education during their pre- and in-service training

- **Innovative financing** RSP does not have any provision for setting up revolving funds to facilitate communities to arrange for credit to their households for toilet construction The Rural Sanitary Marts help households to build their toilet at least possible costs, by providing sound advise on designs and costs, and through the sale of reasonably priced sanitation materials.

- **Social mobilisation and community participation.** The Rural Sanitation Programme implemented by State Government Agencies has very limited social mobilisation and community participation Where NGOs are participating in the programme, there is a greater degree of involvement by the village communities The IEC strategy and action plan, issued in late 1995, provide for one (women) motivator at Village Panchayat level It is envisaged that this motivator will actively mobilise village communities for sanitation As explained above, the IEC strategy is gradually being operationalised and it is yet too early for significant contributions on the social mobilisation and community participation front

- Planning and programming UNICEF support In a country the size of India, UNICEF's own resources can never aspire to significantly add to coverage. Only when technologies or strategies developed and thoroughly field tested by UNICEF are taken into the national Government programmes is there a real prospect of impacting on coverage For this reason, UNICEF always works very closely with the Central and State Governments, so as to best fulfil its catalytic role in the sector.

  UNICEF's involvement in rural sanitation has undoubtedly had a major impact on the overall approach taken by Government to rural sanitation. The table above clearly shows how innovative approaches taken up by UNICEF eventually found a place in the Government programme The rapid pace of change in RSP basic policy is a tribute to the close working relationship between UNICEF, the Central Government and the State Governments

RSP: major lessons learned

The most important lesson learned in India itself is that child mortality can be reduced with the simplest of interventions, meeting the most basic of human rights enough to eat, adequate shelter, good health care and a safe and nurturing environment, including good sanitation and a safe supply of water

Learning points	Global implication / application
Strategies for promoting toilets RSP has learned that a focus on the subsidised construction of home toilets yields neither quick nor sustainable results The programme has already drastically curtailed subsidies, which are now available for the poor one-third of society only Nevertheless, more than 70% of programme funds are still spent on subsidies to construct toilets	For sustainable results, the promotion of home toilets should be based on demand for toilets, not on demand for subsidies If unavoidable, for political or other reasons, subsidies should be limited to the poor only, which contributes to a degree of social justice
Changing from provider to facilitator. Within RSP, the role of Government is slowly changing from a provider of toilets to a facilitator of change The promotion of Rural Sanitary Marts, training of masons on toilet construction, hygiene and demand generation are all aimed at persuading households to construct toilets, using their own resources	The same lesson applies readily to all countries where Governments have capacity and intention to help their people to improve their environment
Monitoring indicators should focus on practices. In line with the world Summit for Children goals, the indicators for water supply and sanitation are monitored on indicators of access There is a need to change the indicator to toilet use, and to develop similar indicators of practices related to the other six components of sanitation	With active support from UNICEF and WHO, national sanitation programmes should develop indicators of hygiene practices, as well as practical, accurate tools to measure progress against such indicators
Improve monitoring. Basic statistics related to sanitation are not systematically collected and presented even at State level Using indicators of hygiene practices, RSP should encourage State Governments to improve monitoring systems	The problem of unreliable, incomplete and inadequate data is not unique to India National sanitation programmes should, within the limitations existing at various levels, take steps to enhance effective monitoring, using appropriate indicators of use rather than access
Integration. It has been very difficult to achieve any degree of integrated programme delivery There are however huge disparities between the Rural Water Supply programme and the Rural Sanitation Programme The rural water supply programme is implemented by huge Statewide technical organisations, while there is only a very limited set up dedicated to the rural sanitation programme	While area-based demo/pilot projects may find ways to integrate service delivery, the difficulty of mainstream Government-let programmes to achieve the same must not be under-estimated Unless UNICEF's specific aim is to improve watsan in a specific limited area, UNICEF assisted demo projects should be designed, keeping in mind the strengths and weaknesses of the Government infrastructure which will be expected to take the demonstrated approaches/ technologies to scale
IEC for hygiene promotion. RSP started systematic efforts to promote hygiene only in 1996 It is too early for the limited efforts to have had an impact on hygiene behaviour of the rural population, even in the districts where piloting of the IEC/hygiene promotion strategy is now in progress	Effective hygiene promotion is very difficult for a Government programme to deliver It requires skills not usually associated with Public Health Engineering Departments Nevertheless, hygiene promotion is undoubtedly the most important component of sanitation
Financial resources. While funds are necessary to move the programme forward, the way funds are used is more important than the actual amount With low implementation capacity at State level and below, the available funds for RSP have been more than adequate Households constructing toilet using their own resources should have easier access to credit	The financial resources for a Government sanitation programme should be carefully estimated, to match the task at hand As capacity to implement an effective programme, the fund allocation balance between water supply and sanitation should increasingly shift towards sanitation For self-financing of toilets, the programme should ensure easy access to credit
Human resources. In the absence of adequate skilled staff dedicated to all levels of implementation, it has been difficult to scale up hygiene promotion and demand generation activities	The staff resources for a Government sanitation programme also need to match the task at hand Sanitation programmes should develop close partnerships with capable NGOs and CBOs
School sanitation. Hygiene practices are adopted early in life, and become part of each person's mindset Sustained changes in the mindset are difficult to achieve Government is increasingly aware of the potential of primary schools, to instil good hygiene practices in school children, and to reach out through the schools to parents and communities	School sanitation should be high on the sanitation agenda of Governments as well as UNICEF As long as primary schools continue without even the most basic facilities for safe water and maintaining hygiene, there is little prospect for improving the sanitation situation among the population at large
The Panchayati Raj system of local self-government is critical for RSP delivery of all sanitation components There is an urgent need to detail the exact role and responsibilities of the three levels of the local self-government institutions	National sanitation programmes should develop carefully designed delivery mechanisms at the lowest level of government
RSP has greatly benefited from operational research by UNICEF and NGOs in the area of sanitation UNICEF and NGOs must continue their catalytic role in sanitation	UNICEF sanitation programmes should always work closely with national programmes for sanitation, rather than aim for coverage in some limited way or area only

RSP: the future

A 1997 national workshop on women, children and sanitation, organised by the Department of Women & Child Development, Government of India, forcefully stated that sanitation and hygiene are basic rights

In contrast with the situation elsewhere in the world where the percentage of those with access to hygiene sanitation facilities has declined slightly over the 1990s, in India toilet coverage has seen a steady increase From 1986 till 1996, household toilet coverage rose from 1% to 20% an annual increase of less than 2% If the trend of the past decade continues, coverage will reach about 32% by the year 2002 Even allowing for an acceleration to the extent of doubling the annual increase to about 4% will only give coverage figure of 40% by the end of the period To reach the Government target of 75% by the year 2002 will require nothing shout of a sanitation revolution in the country. For the subsidised toilet construction component of RSP to contribute 17% to national coverage in the next five years, programme output will have to increase seven-fold, adding 3 5% coverage per annum, against 0 5% per annum achieved in recent years

With regard to the other aspects of sanitation, particularly proper hand-washing practices, RSP will be hard-pressed to make a noticeable impact. Efforts must focus on the development and strengthening of a sound infrastructure at all levels, which can deliver sustained and effective hygiene education to the rural population

Government of India has prepared the final draft of the Ninth Five -Year Development Plan. Changes in the Central Government have led to a postponement in the start of the Plan, which should have commenced from 1997 In preparing the plans for the Rural Sanitation Programme, the experiences in the programme as well as in ongoing UNICEF demonstration projects was taken into account

UNICEF and Government of India have prepared the final draft of the Country programme of Co-operation for the period 1999-2002. The new Country Programme is giving increasing importance to environmental sanitation, both in rural and in urban areas. UNICEF-GOI co-operation will focus on supporting the Rural Sanitation Programme to institutionalise and scale up strategies related to self-financing of home toilets, the promotion of hygiene, sanitation in and through schools and the Control of Diarrhoeal Diseases - Water supply and sanitation (CDD-Watsan)

The gradual programmatic change towards a demand-driven approach, facilitating user choice, decision-making and investment is very much in line with the World Bank lending strategies in rural water supply and sanitation

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The following table summarises the key elements of the two programmes for the coming years.

Government	UNICEF - Government of India
Rural sanitation Programme	**Child's Environment Programme**
Period Ninth Five Year Plan (under preparation), 1999-2003 (?)	**Period** : 1999-2002
Objectives (proposed) • 75% household toilet coverage (No specific targets related to hygiene) **Possible further changes to the CRSP guidelines:** ⇒ Promote a range of toilet options, affordable to a wide range of socio-economic groups ⇒ Toilet subsidies for the poor to be proportional lower for increasingly higher standards of toilet designs ⇒ Higher allocation for IEC for hygiene promotion, to cover also cover school sanitation ⇒ Focus on three principal components of the sanitation package With very limited capacity to bring effective hygiene education a clear focus on key messages is needed While all seven components of sanitation are undoubtedly important, some actions are more important than others Key actions to be promoted are the use of safe water and sanitary toilets and proper hand-washing practices, with soap/ash ⇒ Encourage private enterprise, which is one of India's great strengths ⇒ Specifically aim for toilet upgradation	**Objectives** (related to sanitation) • Promote the seven components of sanitation, backed by appropriate technology and financing systems, through Government and NGO channels in 13 major States, • scale up alternate delivery and credit mechanisms for sanitation to cover at least 20 per cent of Blocks, • operationalise a suitable communication and social mobilisation strategy, for promoting improved hygiene behaviour, at national level and in 13 major States, • promote hygiene (personal, domestic and environmental)among children, families and communities, through 25 per cent of primary schools, • operationalise expanded CDD-Watsan strategy, including nutrition for a better synergistic effect, in at least three districts each in six States, covering areas reporting a high degree of malnutrition
Major recommendation from the 1997 National Workshop: ⇒ Access to sanitation and hygiene is a basic right for all ⇒ Promote sanitation in all anganwadis and pry Schools ⇒ Safe water and sanitation for all schools ⇒ Central Government should support necessary legislation ⇒ Manual scavenging should end ⇒ Besides toilets, women should have access to bathing cubicles ⇒ Bank credit for home toilet construction should be available ⇒ The Gram Panchayats and NGOs should create awareness of the health risks of unhygienic living	

Demand Generation

In this section there two papers dealing with the importance of demand generation for making the rural sanitation programme a success.

In the first paper Ms C.Rajathi, addresses the participatory Demand Driven Approach initiated by Danida for Water Sanitation programme in Tamilnadu.

The paper describes the project experience and difference between supply driven approach and demand driven approach

The second paper by S.S. Chakraborty highlights the role of demand generation in total sanitation programme with reference to the Midnapore experiment.

The paper also throws an insight as o how demand generation concept can prove beneficial in developing the Human Resources, a key parameter to any developmental programme.

Initiatives With Demand Driven Approach For Rural Sanitation – Danida's Success Story In Tamilnadu

C.Rajathi

This paper addresses the Participatory Demand Driven Approach initiated by Danida assisted Water and Sanitation Project in Tamilnadu This project is leading to improve sustainable sanitation environment and can be replicated elsewhere This paper describes the project experience and also tells about how this approach is different from the supply driven approach

1 Introduction

Introducing the sanitation culture into the rural life and reaching the sustainable sanitation project is a challenge for many development agencies The rural people perceive sanitation as least priority in their daily life and have negative attitude towards latrines The result is increase of poor sanitation conditions and more health problems in rural areas Despite major investments have been made by Government and the donors on sanitation sectors since the early part of this decade with supply driven approach to improve the rural sanitation, the effect is very little and the sanitation problems remain unsolved due to various reasons like social, technical, construction problems during the implementation process which eventually resulted non utilisation or under-utilisation of latrines The centralised planning in supply driven approach emphasises more on target based achievement without beneficiaries participation Low profile is given for beneficiaries' participation, generating demand for latrines, hygiene education and capacity building and technical options It is proved from the supply driven approach that mere providing latrines to the rural people will not improve the sustainable practices without demand from the beneficiaries and their participation in the process of the project activities

Learning all these backlogs in the supply driven approach, the recent innovative approach initiated by Danida assisted water supply and sanitation project in Tamilnadu, after its 5 years of experimentation of different approaches, is the 'Participatory Demand Driven Approach' which ensures demand based delivery of latrines with participation of all the beneficiaries including the women in the whole development process leading to an improved sustainable sanitation environment in the rural areas.

2 Background

Danida's assistance to Tamilnadu Govt, for implementation of Water Supply and Sanitation project in Cuddalore and Villupuram districts since 1990 in two phases covers an outlay of Rs 512 million upto the year 2000 Of which Rs 83 9 million is budgeted for the target of 38,000 Household latrines and 700 Institutional latrines

The two districts with the total population of 4 8 million (1991 census) comprise of 35 blocks Compared with Tamilnadu as a whole, these two districts are more rural in character with 84% of the population living in villages. Also these districts have high scheduled caste population (25%) in the state. Socio economically, these are the most backward districts in the state Not even 2% of the households are having sanitation facilities in the rural areas

During the first phase of project period, supply driven approach was adopted on line with the then Government strategy but later changed to need based approach The lessons learnt from these approaches proved that lot of manpower was required for constant follow up for mobilising the beneficiaries, maintaining the technical and construction quality and improving the utilisation of latrines In general, the efforts taken by the project during the pilot phase, no doubt, had increased the villager's knowledge and practice in sanitation, which can be applicable in a smaller scale application. However, for sustainability and replicability of the project in a larger scale implementation within the capacity of the Government, the need for an innovative alternative approach was required. Following that

the project experimented and identified Participatory Demand Driven Approach as an appropriate model for sustainable sanitation project This approach is being implemented in the second phase of the project since late 1996

3 The New Participatory Demand Driven Approach

The demand driven approach emphasises decentralised planning and implementation in which the Village Panchayats/Beneficiaries are expected to be empowered as implementing agencies The delivery of latrines is based on the demands from the beneficiaries on 'first come first serve' principle It also empowers the beneficiaries themselves not other agencies as main actors in planning, purchase of materials and construction of latrines. Here the role of project staff is restructured as facilitators to provide technological options to the beneficiaries

The project recommends pour flush leach pits latrines and offers eight designs of latrines, high to cheaper cost design and the beneficiaries can choose any one of the models They are also allowed to have additional facilities like bathroom, tiles, bigger size of superstructure etc , as optional if they wish but at their own cost The cheaper cost latrine with the design of a pit directly under the superstructure is not recommended by the project due to couple of reasons – the beneficiaries have least preference to this design and the problem of emptying the pit

The unit cost varies according to design from Rs 4300 to Rs 2000 (1998 prices) The interested beneficiaries have to invest their own money in construction and the subsidy is released to the beneficiaries only after completion of latrines through the Village Panchayat This may be an indicator to measure the genuine demand for latrines They subsidy rate varies according to the design, the maximum of Rs 2635 to the minimum of Rs 1500 The masons are selected by the beneficiaries and trained by the project This approach encourages self interests of the beneficiaries through inter personal communications/dialogues between the beneficiaries themselves

4 Highlights of the new strategy

The project support is provided only to those villages on their demand based on 'first come first serve' principle

This project is implemented through the Village Panchayat and the project fund, jointly operated by the Village Panchayat President and Vice President is already available with the Village Panchayat account before completion of the latrines

More emphasis is given for strengthening women's participation in the implementation process can capacity building activities The project support is provided to the Village Panchayat based on their request with the applications from atleast 25 households A village can construct any no. of latrines The beneficiaries can choose any model of latrine as recommended by the project and construct it by themselves The subsidy is distributed to the beneficiaries only after completion of a batch of 20 to 25 latrines

5 Supply driven approach Vs Demand driven approach

The special feature of the Participatory Demand Driven Approach is decentralisation, down to the beneficiaries' level, in planning and implementation and it is flexible. This approach is socially accepted It provides an opportunity to the women who are the main target groups in use and maintenance of sanitation facilities to participate in the process of implementation. High technical and construction quality is maintained and also high level of utilisation and proper maintenance is ensured This success inspires and influences other people to increase the positive attitude towards use of latrines. This can be replicated in the Government programmes within its capacity since it is administratively simple and easily manageable. Unlike in the supply driven approach, the benefits reach the

beneficiaries directly through the Village Panchayats bypassing many hands

With the limited capacity of the project, nearly 2000 latrines of different designs with high quality have been completed within a period of 6 months About 80-90% utilisation is ensured immediately after completion 200 local masons have been trained on construction of latrines The **Table-1** attached explains the differences between the supply driven approach, which is broadly used by many development agencies and the demand driven approach initiated by Danida

6 Motivation and Hygiene education process

The project strategy and approach is decimated to the Village Panchayat Presidents and Vice Presidents in the selected blocks through orientation workshop They in turn decimate the strategy to the villagers and motivate the beneficiaries The Presidents utilise the Ward members/local youth/potential persons/masons in motivation activities The Presidents collect the applications from the interested beneficiaries. After receiving the request for project support with the applications of minimum 25 latrines Water & Sanitation Committee (WSC) is formed in the village PLA is conducted by them Following the PLA, pre-orientation meeting is conducted to all the beneficiaries including women who have applied for latrines in each selected village. The content of the orientation covers project strategy, importance of latrine, technical aspects, cost of latrine and subsidy rate, site selection for latrines, selection of masons and selection of beneficiaries etc The selected masons receive 3-4 days training on construction of latrines and hygiene education Then the beneficiaries purchase materials and construct latrines using the trained masons

After completion of a batch of 20-25 latrines, subsidy is distributed to the beneficiaries through the Village President in a small function During this occasion, post orientation is given to all the beneficiaries preceding the subsidy distribution This orientation meeting focuses on use and maintenance of latrines, and hygiene practices Special emphasis is given to participation of all the women beneficiaries together with the men in the orientation with the condition that the women beneficiaries should receive the hygiene education and subsidy The post orientation meeting is repeated to each subsequent batch of beneficiaries during the subsidy distribution Folk media is also used for one time mass health and hygiene education campaign in each village either during the occasion of subsidy distribution or construction of latrines

7 Experiences and lessons learnt from the implementation of the Participatory Demand Driven Approach.

The decentralised approach at the beneficiary's level, enable the project to mobilise the maximum utilisation of local human resources in the project activities The active involvement of beneficiaries in all stages of the project activities ensures the proper quality of construction, high utilisation and proper maintenance This approach also encouraged participation of more women beneficiaries in hygiene and health education meetings and in decision making process The Village Panchayat /youth and the trained masons have placed active role in communication and motivation activities

The genuine demand for latrines can be assured since the beneficiaries initially invest their own money for construction of latrines and also the men & women in a family assist the masons in construction of latrines The knowledge on technical aspects of the latrines has increased among the beneficiaries, which would help them for easy handling of maintenance of latrines in future

The beneficiaries are happy to select the design of latrines as per their wish and both men and women in a family apply their own ideology in designing and site selection in consultation with the trained mason Many of them have selected attached bathroom and the additional facilities at their own cost on and above the maximum subsidy fixed by the project (Rs 2635)

Almost all the beneficiaries preferred double pit brick and cement superstructure model latrines Also most of them spent more than the fixed cost because to want of additional facilities. They spent a minimum of Rs 3300 to Rs 12000 per latrine This approach has inspired the competitive motive among the beneficiaries and increased the ownership feelings

Interpersonal contact between beneficiaries, visiting each other's latrines during construction, Village Panchayat /youth and mason's motivation, and demonstration latrines constructed during masons raining and street plays are the effective media of communication. Poster on different models of latrines, handbooks on how to use and maintain latrines, miniature of water seal are the main visual aids used during the orientation meetings

The prevailing attitude of "latrine close to house will create smell" has disappeared from the minds of the people and most of them have considered latrine as part of their houses/homesteads

Since the beneficiaries/ Village Panchayat/youth/masons are potential communicators, and also the beneficiaries took over the responsibility for construction, less manpower is required from the project/government for supervising/monitoring of construction works, health education and motivation activities

Quality control is ensured since the beneficiaries themselves are involved in construction of latrines The cost of latrine is also reduced since the beneficiaries are involved in purchasing of materials, using their own materials, providing labour contribution in construction of latrines

The beneficiaries have expressed their satisfaction they can enjoy the full benefit from the project This process based approach strengthens the women's involvement in the project sanitation activities

It has enabled the Village Panchayat to follow simple administrative procedures and easy accounting system, which includes only the receipt of funds from the project and the distribution of subsidy to the beneficiaries

The beneficiaries have started using the latrines within a week time after completion without many follow up visits by the project staff. The utilisation is high with 80-90% of the latrines are being used and clean maintenance is observed in most of the latrines

Concern have been expressed that this strategy do no offer the benefit to the poorest segment of the community particularly the schedule caste people, this is true to some extent, though many poor household have participated, but motivation and land problems etc makes it difficult to include them as the prime target for project intervention at this stage.

8 Institutional latrines

The project support to the institutional latrines is provided based on the demands and with matching fund contribution from the PTA/VP PTA/VP has to contribute the matching fund of 10% of the total cost of the selected model and the project matching fund is 90% Project provides 6 models of latrines suitable to different strength of the school The design comprises of toilets and urinals separately for boys and girls with 2 leach pits and a separate leach pit for urinals The unit cost of latrines varies from Rs 75,000 to Rs 166,000 This strategy is well accepted by the PTA and 70 schools have been taken up within 5 months time for the project support This project is also implemented through the Village Panchayats and the contractors do the execution of work with the technical advice by the Project Engineers. The participation of the teachers is ensured in all stages of planning and implementation process and the quality of latrines is well maintained and completed in time Since the implementation of latrines has been taken up recently, the utilisation level is yet to be studied

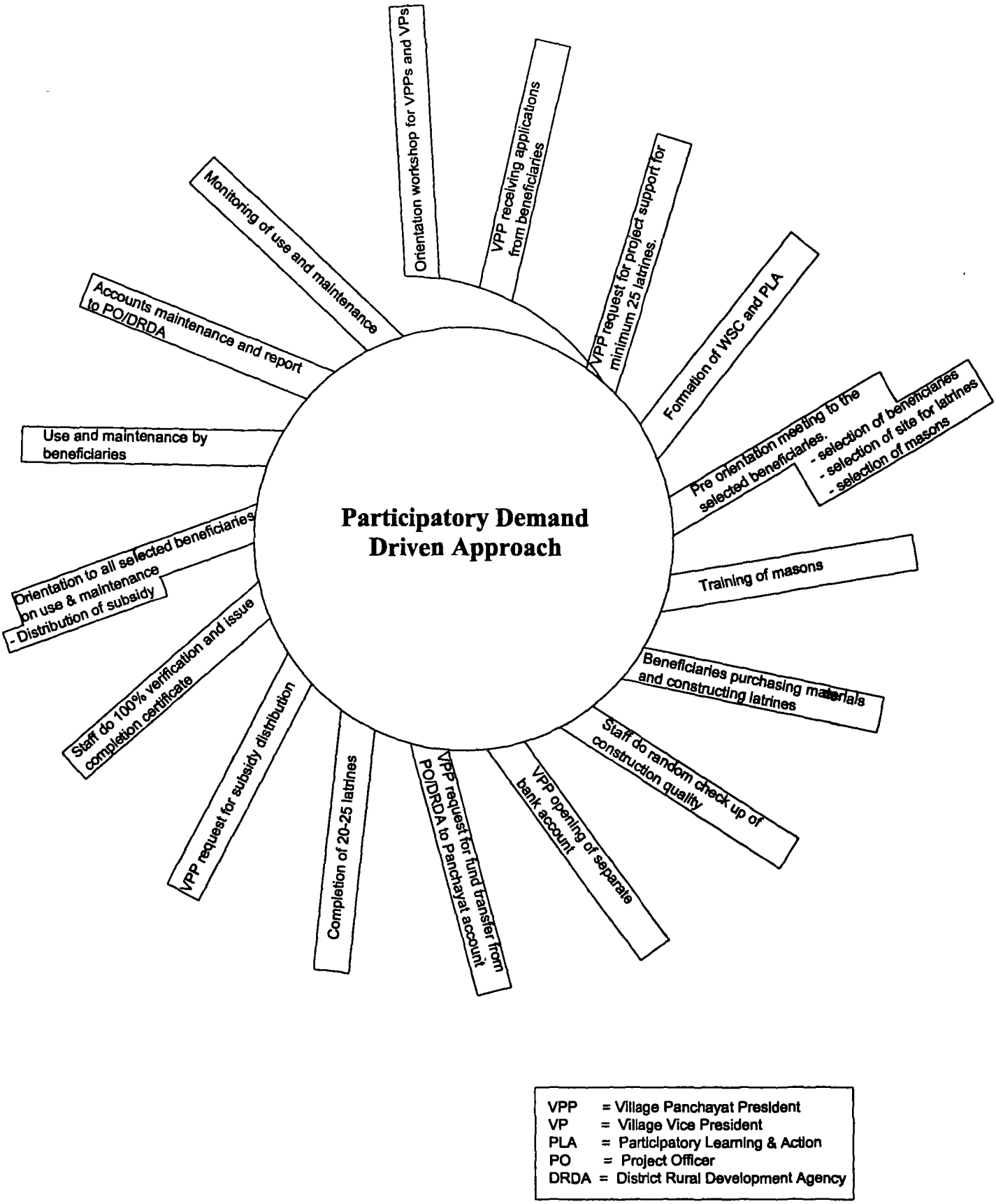
9. Possible replication of this approach in the Govt Programmes.

Since the participatory Demand Driven Approach is socially accepted, administratively simple to implement and lead to improve a sustainable sanitation environment, this can be replicated in the programmes like CRSP implemented by Government of India

Table-1

SUPPLY DRIVEN APPROACH Vs DEMAND DRIVEN APPROACH

	Supply driven approach	Demand driven approach
1	Centralised planning at state level/block level for selection of villages for and fixing the target for each village	Decentralised planning, and implementation Selection of villages are based on the demand from the villages
2	Centralised implementation through BDOs/NGOs	Decentralised implementation through Village panchayats
3	RWOs/Contractors are the main actors in construction of latrines	Beneficiaries are the main actors in construction of latrines
4	Target based approach, low profile to participation and capacity building at village level	Demand based with users participation including the women participation is ensured
5	Strict to only one fixed design of latrine decided by the state level authority	Technological options are of beneficiaries choice
6	BDOs/NGOs/Contractors procure materials by using project fund and beneficiaries contribution	Beneficiaries purchase materials by themselves investing their own money with the technical guidance of local trained masons/Village Panchayat
7	Rural Welfare Officers/NGOs construct latrines by engaging the local contractors	Beneficiaries themselves construct latrines using local trained masons
8	**BDOs/ NGOs/ contractors pay local contractors and masons.**	No contractor is involved The individual beneficiaries pay the trained masons themselves
9	Options are limited in selection of materials by beneficiaries Beneficiaries have less choice to use their own materials	Beneficiaries are free to select materials and use their own materials
10	Lot of manpower is required for follow up for supervising and monitoring and post motivation activities	Less manpower is required since it is demand based and the beneficiaries themselves took over the construction
11	Beneficiaries get full structure of latrines after ensuring their cash contribution	Beneficiaries receive subsidy only after ensuring the completion of latrines
12	Administration and account maintenance is complex and need more man power	Administration and account maintenance is very simple and easy to manage by the Village Panchayat



VPP = Village Panchayat President
VP = Village Vice President
PLA = Participatory Learning & Action
PO = Project Officer
DRDA = District Rural Development Agency

Role Of Demand Generation In Total Sanitation Programme

S.S. Chakraborty

Most of our rural development programmes are supply driven and not demand driven As a result, effective utilisation of the services of the different agencies particularly by the Government is not properly made nor maintained. Though sanitation programme gets less priority in the field of rural development till the 7th Five Year Plan, it had also the same fate. In early eighties I had an experience of evaluating sanitation programme in Jhargram sub-division of Medinipur district where it was found that 80% of the services were not utilised for many socio-cultural and economic factors From the 8th Five Year Plan onwards sanitation programme has become one of the priority programmes in relation to rural development And in the light of the experiences gained the Government of India is formulating the strategy for the 9th Five Year Plan period We hope that during the coming years a comprehensive and integrated program of sanitation will be taken up for 75 per cent coverage of rural families of India In the light of the experiences of Ramakrishna Mission Lokasiksha Parishad, Narendrapur, an attempt is being made in this paper to focus on the major issues which we should keep in view while initiating sanitation programme in the country in the coming years.

Role Of Ramakrishna Mission In Sanitation Promotion In West Bengal

Many are probably aware that Ramakrishna Mission's major thrust in its development programme is on educating the people in making them conscious about their own development. Swami Vivekananda observed, "Education is the panacea for all social ills" Of course, by education here he meant need-based location-specific educational programmes Thus the broad-based human resource development has been the major thrust area in sanitation programme also The Parishad is involved in sanitation programme since early '80s with financial support from UNICEF Beginning with 75% subsidy to bring it down to 0% subsidy by the end of 1988 was attempted in a few hundred villages in some South Bengal districts. Having this experience later on the Mission with collaboration of the UNICEF, the Government of India, and the Government of West Bengal took up intensive sanitation programme in the district of Medinipur, West Bengal This programme has become quite well known not only in India but even in many other countries While taking up this programme the main strategies the Mission worked upon were as follows

BASIC STRATEGIES FOLLOWED

(i) From the very beginning it was decided that the programme would be implemented without any subsidy, basic thrust being 'demand generation'

(ii) As socio-cultural factors play an important role for behavioural change the Parishad designed social mobilisation activities emphasising on the promotion of 'on-site defecation' with lowest cost latrines installed with locally available materials

(iii) As the place for open-air defecation is becoming scarce because of advancing agricultural and other socio-cultural activities, we utilised the drudgery and privacy of women as the major issue in creating effective demand.

(iv) As the mindset of the common people is not ready to spend more money for construction of latrine, attempt was made to provide technological options matching the economic affordability of the rural people

(v) People conceived that latrine was a costly affair and therefore it did not come within their purview in normal course. So, while developing various technical options our emphasis was on developing a model, which would involve minimum cost.

(vi) For effective demand generation it is necessary that we create positive environment in the villages involving all strata of people So long our major thrust in promoting sanitation were on the people below the poverty line but it is an established fact that many better off people even don't have sanitary latrine in their households in the rural areas. Thus, strategy has to be formulated to involve every inhabitant of a village and to declare the village a sanitation village.

(vii) As there was no felt-need for sanitation amongst the rural people emphasis was laid on strong persuasion to create demand for sanitation. A cadre of trained Sanitation Motivators was built up for the purpose

(viii) To sustain the campaign on a continuous basis, it was felt that at the village level some community based NGOs have to be identified, which will interact with the village people on the one hand, and the agencies at a higher level on the other

(viii) While promoting the village based community organisations it was felt necessary to have a network of institutional infrastructure from the village level to the district level

(ix) But even after generation of demand if the would-be-beneficiaries don't get the supply of relevant materials at their door coupled with trained masons, over a period of time the demand will wither away Hence attempt was made to establish production centres as closer to the people as possible Thus, in Medinipur district 36 production centres have been planned of which 25 are already functioning. The village level grass-root organisations carry the materials from the production centres and deliver the same at the door of the individual householder

(x) Last but not the least is the strategy for effective demand generation for implementation of the programme is to intensify our effort in a specific geographical area with a time target, say six months, instead of diluting our efforts in a widespread area at a time

With the above mentioned specific strategies and approach it has been possible to increase the sanitation coverage in Medinipur from 4 74% in 1990 to around 4% in 1996-97 We hope to achieve 70% target by the end of this decade.

The quantum of human resource development that took place during the period from 1990 to March 1998 will be evident from table below

1	Village motivators	7600
2	Seed Mason	144
3	Village Mason	1414
4	Youth Club Leaders	4711
5	Accounts Workers at	4711
6	Smokeless Chullah	2978
7	Tara Handpump	3578
8	Tara Handpump Water	2368
9	Drilling Mistries	41
10	Sanitation Song Singers	153
11	Field-level Project	328
12	Training Task Force	143
13	ORS Depot Holders	7419
14	Training Task Force	150
15	Orientation of	15111
16	-do- of Dist Level	351
17	Workshop on L F A	74

TABLE-II

Sanitation Facilities Provided Upto March 1998

	Facilities provided	Quantity
1	Household Low-cost	2,17,608
2	Soakage Pit	735
3	Garbage Pit	6,000
4	Bathing Platform	734
5	Washing Platform	407
6	Improved Chullah	19,452
7	Latrine-linked Biogas	790
8	**Tara Handpump**	701
9	Oral Rehydration Solution	1,03,902

An independent study was conducted in Medinipur on the issue and factors relating to the impact of various elements of social mobilisation. UNICEF sponsored the study. The study was conducted in 19 sample villages covering 25-30 households from each village From the study it was found that intensive social mobilisation through personal and group factors have been the major factors for demand generation

Direct Factors Motivating Families To Install Latrines

Factors	**Total**
Persuasion by Motivator/Club	259 (84 64%)
Persuasion by Panchayat	101 (33 01%)
Persuasion by Project Workers	124 (40 52%)
Persuasion by	25 (8 17%)
Persuasion during Group	93 (30 39%)
Persuasion by some families	12 (3 92%)

Several households have indicated more than one reason, the percentage may add up to more than 100%

Advocacy strategy for sanitation is a basic factor for demand generation It is found from the study that other than the inter-personal contact some of the mass campaigns like effective motivation camp in the villages with slide/video shows, and sanitation song squad programmes have proved effective in demand generation as shown below

Indirect Factors	**Total**
Watching ISP-HHLCL* in	24 (7 84%)
Motivation Camps	105 (34 31%)
Leaflets	44 (14 38%)
Slide/Video Shows	103 (33 66%)
Wall Graffiti	63 (20 59%)
Songs	11 (3 59%)
Exhibitions	20 (6 54%)

**Household Low-Cost Latrine*

Several households have answered more than one reason, thus percentage will add up to more than 100%. The common people possess some preconceived ideas about sanitation The study highlighted some of the issues, which have influenced the people for demand generation for installation of latrines The study found that 80 99% rural families accept the latrines because they experienced that open-air defecation is inconvenient for family members especially for women and children Another issue, which influenced 56.34% families to install latrines, is their impression that open-air defecation is lowering their social status And the third issue for accepting the latrines for 30 14% families is that open-air defecation causes health hazard. Thus it will be found that health factor was not the predominant factor in accepting the sanitary latrines Therefore more emphasis on health issues may not serve the purpose The **Table – III** is based on the study of 26 villages of which 19 were ISP villages and seven were no-project villages

The study pointed out that 96 73% families installed latrines because delivery of materials at doorstep and skilled masons were made readily available at the village level through village level network. Ensurance of delivery system was highlighted in social mobilisation and it had worked as one of the positive factors for installing latrines 3 27% families arranged raw materials on their own and installation of the units were done through the trained masons of the project privately engaged by the house owners Thus it will be evident that institutionalised delivery system with an intensive network upto village level is one of the basic factors for sustainable demand generation

Major Initiatives Taken By Different Agencies

Major Initiatives	**# Households***
ISP-HHLCLs built through ISP	296 (96 73%)
ISP-HHLCLs built on own	10 (3 27)

** N = 306*

Advantage of household latrines in terms of use and maintenance is also one of the criteria for demand generation It is found from the study that 85.62% families who have installed lowest cost model experienced that there was no foul odour even though it was the lowest cost unit 59 19% families expressed that it was really low cost which motivated them to install the units while 41 83% families perceived that after some time there was scope for upgradation 77 45% families perceived that low cost latrines prevent infections of diseases while 48 04% families expressed that they could themselves clean it very easily and is as shown below

Advantages Of Low – Cost Models Of Latrines

Advantages	# of Households
No foul odour	262 (85 62%)
Prevents infectious diseases	237 (77 45%)
Low cost to build	181 (59 15%)
Scope for improvement	128 (41 83%)
Waste used as manure	81 (30 86%)
Easily cleaned	147 (48 04%)
Low maintenance cost	90 (29 41%)
House premises remain clean	7 (2 29%)

More than one household indicated more than one reason, thus percentage will addup to more than 100%

As a result of strong advocacy for lowest cost latrines with upgradation facilities 82 03% families installed only lowest cost units (Models J+K+L) in Medinipur as shown in the **Table** below

Thus from the above studies it is observed that sanitation programme will be successful if we give due importance to the various elements affecting demand generation. More campaign approach will not succeed unless other factors like village-based institutions and their networking; decentralised production and delivery system, involvement of trained local motivators; opinion leaders, panchayat members; use of mass media both at the district and block levels as well as village level, promotion of different models giving affordable choice to the end users, least emphasis on subsidy and if it is given it should be as minimum as possible and should cover largest number of residents of a village The aim should be total sanitation of a gram panchayat, then of the block and next step of the district. I am happy to point out that based on the Medinipur experience the Government of West Bengal has adopted the above mentioned strategy to cover the entire State by the end of this century Already 194 blocks have been covered with sanitary marts as against 319 blocks of the State If the trend continues we don't think it would be difficult to achieve a target of 50-60% coverage by the end of this century We hope the Government of India as well as other State Government will initiate sanitation programme in the 9th Five Year Plan based on abovementioned strategies

MODELS OF HHLCLs IN SIP VILLAGES

Model	# of Households	N = 306
A	16	(5 22%)
B	22	(7 19%)
C	3	(0 89%)
D	0	
E	0	
F	0	
G	0	
H	0	
J	32	(10 46%)
K	2	(2 94%)
L	210	(68 63%)

TABLE –III
REASONS FOR BUILDING HOUSEHOLD LATRINES

Reasons	Total # Households N = 426	Total # of Households in ISP villages N = 378	# of Households in no-project villages N= 48
Outdoor habit is inconvenient for family members especially for women and children	345 (80 99%)	323 (85 45%)	22 (45 83%)
Problem for finding suitable open space	154 (36 15%)	144 (38 10%)	10 (20 83%)
Outdoor one air latrine is considered a lowering of social status	240 (56 34%)	222 (58 73%)	18 (37 80%)
Outdoor open air latrine is considered hazardous to health and hygiene	171 (40 14%)	156 (41 27%)	15 (31 25%)
Availability of low-cost models and materials at doorstep	111 (26 06%)	110 (29 10%)	1 (2 08%)
Persuasion by ISP Workers, Motivators Club Members, etc	186 (43 66%)	186 (49 21%)	0 (0%)

Inter-Sectoral Linkages

This section contains three papers dealing with various sectors linked with sanitation sector and how important they are to make any sanitation programme effective.

In the first paper, T.Sundararaman establishes the linkages of rural sanitation with the Health and Education sectors.

The last two papers provide a strategy for controlling diarrhoeal diseases through proper water and sanitation practices. Dipak Roy in his paper emphasis on the quality of Water and Sanitation practices in controlling diarrhoeal diseases among children. While, Sri Arun Bal in his paper demonstrates the reasons for the success of programme in Midnapore.

Literacy to Health

-A Brief Overview of Five Years' of Experience

T.Sundararaman,

Introduction-

The total literacy campaigns were one of the boldest and most imaginative of government programmes the Independent India has witnessed An altogether Indian creation, not dependent for either its conception or for planning or for resources on any external funding agency, this programme could boast of many features unheard of in government programmes

Firstly it was a programme that was based on a massive mobilisation of people form all walks of life but especially of young people in the villages who were called on to contribute voluntarily as instructors and organisers for over a year with no payment whatsoever

Secondly it was a decentralised programme with considerable autonomy for district level planning and innovation

Thirdly it was a programme conducted in partnership between NGOs and the district administration with a specially constituted organisation—the BGVS identifying, sensitising and guiding a district level core team (of non-governmental activists) to provide a reliable and qualitatively adequate partnership to the district administration.

Fourthly a set of tools were developed that could make such an approach possible. This includes not only the revised curriculum (the IPCL approach as it was called), but also the techniques of environment building, survey, monitoring and so on that were essential to bring forth and motivate the volunteers and forge the entire human resources mobilised into a dedicated team

Unfortunately these campaigns could not live up to the high expectations that the initi [1] successes built up After the first three years a slow decline began which was to accelerate into a situation where today not much difference can be perceived between this scheme and many other poorly performing schemes The purpose of this paper is not to probe why this decline occurred but rather to draw lessons useful to health and sanitation programmes form the literacy campaigns wherein we refer only to the first three years or what may be called the progressive phase of the literacy campaigns.

We will for the moment presume that the initial progressive phase satisfied a set of conditions that the subsequent stages did not have These set of essential conditions were a partnership between the NGO and the district administration with a good core team of full time activists supporting and supported by the district administration. Once the districts that had such a peoples network support was exhausted the programme should have slowed down to allow this to develop However the programme continued to be expanded irrespective of this factor. The decline and eventually the collapse of the programme was bound to follow

In some districts good political support, along with undisturbed tenure for a committed district officer who initiated the programme and support from panchayats could render the programme effective in the

absence of partnerships—like what happened to some extent in West Bengal.

In other places dynamic officers made monumental advances only to see it swept away the moment they were transferred This collapse was unavoidable in districts without a core team of activists but often despite such a team Such a collapse could not be prevented All these problems should however not detract us from studying the lessons of the successful campaigns during its progressive phase

Campaigns like the first eight districts taken up in Tamilnadu, and most districts of Kerala, Nellore and Nizamabad in Andhra Pradesh, Midnapore in West Bengal, Madhepura in Bihar, Sirmour in Himachal, Bilaspur in Madhya Pradesh were able to demonstrate that the model was intrinsically capable to delivering substantial results within a short space of time

The main achievements of these seventy or so successful districts could be enumerated as follows·

- provided basic literacy skills to lakhs of the poor especially women in a short space of time in a most cost effective manner,
- create a major mobilisation for a social purpose that gave lakhs of women and members of the weaker sections their first sense of organisation and empowerment, raised awareness on a number of basic issues like health and women's rights,
- brought for the lakhs of volunteers who worked for a socially useful purpose, and created precedence for government and NGO to work in partnership and for people's mobilisation based government programmes

It is these lessons that are of relevance to those planning for interventions in the health and sanitation sectors

Health In the TLC/PLCs

Almost all-total literacy campaigns included substantial messages on health and sanitation These mainly related to maternal and child health and to water and sanitation

The out reach of these messages is incredible and must be estimated in several millions However the impact of such messages on actual attitudes and practices must be seen as very limited For the most the messages themselves tend to preach and are loaded with clichés and the obvious—like be clean, eat good food etc. which may not have provided much more than literacy skills Even otherwise a book level transaction without having grained volunteers to discuss and raise issues has poor results

However where campaigns set themselves targets in health interventions like for example immunisation in Midnapore, or leprosy surveys in Durg, the impact of the campaigns was impressive. Both in terms of awareness generation and in terms of actual recorded improvements This trend was further accelerated in the good post literacy campaigns, where conscious effort was given to more detailed information provision and discussions in health related areas.

The campaigns could possibly have been used much more and much better if there had been more initiatives from the health ministry to make use of the opportunity, but unfortunately such was not forthcoming. Especially in the first three years when the campaign was at its most dynamic it could have achieved so much. To catalyse such an involvement the BGVS held a major seminar and followed up with number of initiatives which in the main were not successful, though it did result in BGVS being given a health education project in twenty districts

The BGVS twenty district health education Project.

From 1994 to the end of 1995 the BGVs undertook to build a health and sanitation education component into the Post literacy phase of the total literacy campaigns as well as experiment with the development of health education as a tool to build up people's networks in some districts (so as to enable the district to be able to take on literacy work more successfully at a later phase). This experiment, at one level, was very successful A 15 booklet series on health education was developed which was written and illustrated and produced in such a manner that it could be easily read with low literacy skills, was basic in content yet capable of provoking interest, and also that it could be attractive though cheap thus making it capable of wide replication Since then these books have been translated and printed in over eight languages not by the BGVS units and different district literacy organisations but also by the ministry of health More than lakh copies would easily be in circulation. A guidebook to use this book within the literacy and post literacy context and to train and orient literacy volunteers and organisers to health issues was also developed The campaign performed above expectations in as many as eight districts (Ramanathapuram, Vellore, Nellore, Jehanabad, Madhepura, Bilaspur, Chamoli and Mandi), and upto expectations in eight more districts, failing to take off only in four Uttar Pradesh districts as part of organisational reasons exacerbated by a very non facilitatory political climate.
However there was little follow up from the health ministry and in the absence of supportive letters from the centre most district administrations saw this as an independent NGO initiative and would have little to do with it The lack of interest was also manifest in the failure to capitalise on this experience and go in for a large scale replication By then however the TLCs were in decline and the initiative from the BGVS to pursue this option had also all but disappeared However the potential to use the situation and some methods from the TLC to launch interventions in health and sanitation not confined to health education, especially in those districts that had done well in this literacy to health campaign was clear Such interventions were finally undertaken in the districts of Madhepura and Jehanabad in Bihar and the districts of Ramanathapuram and Vellore in Tamilnadu—an experience that we shall discuss later

The Midnapore Example.

The Midnapore sanitation model is well known and is now well recognised internationally. What is less well known about it is its close relationship with one of the most successful literacy programmes of the country The Midnapore total literacy campaigns provided, to some extent unplanned for, and environment that favoured such an approach The strong emphasis on building a facilitatory environment and on a partnership between NGO and government with the government playing the quieter partner, allowing the NGO, in this case the Ramakrishna Mission, to be the more visible partner is also part of the approach that the TLCs had initiated Unfortunately as in literacy when replicating this model enthusiastic officers would often be tempted to go it alone and garner all credit to the government, or to just hand it over to an NGO without accepting the role of actively working for its success In both such cases they would be faced with a much lesser achievement than what Midnapore attained

It should also be noted that the parallel between literacy and sanitation stops at this Beyond this the whole process of delivery of sanitation and training is distinctly different form the literacy campaigns However the technological choices, the mechanisms of sanitation delivery and the training provided is also different from that of the existing CRSP paradigm This

highlights the necessity of each campaign to throw up the tools most appropriate to it, instead of imitating the approach of earlier programmes mechanically

The Ramanathapuram Programme.

The Ramanathapuram programme was a conscious experiment by the BGVS) acting with the centre for ecology and rural development and the Tamilnadu science forum) to evolve an approach in health and in sanitation that went beyond awareness generation to actual implementation that was based on the situation and the structures left behind the total literacy campaigns, that drew upon its lessons but was not limited by it or by earlier experience, going beyond this to fashion its own tools and understanding Both the Ramanathapuram health programme and the sanitation programme and the sanitation programme had a major component of environment building and were based on voluntarism at the village level supported by a mall group of block level full-time persons The health programme focussed on women and child health and the control of tuberculosis, aiming to ensure full utilisation of existing government services and to enhance panchayat capabilities and promote community interventions so as to measurably increased health status The sanitation programme aimed to develop rural sanitation as a viable small scale enterprise linked to women's self help groups as well as to the post literacy and health programmes.

Whereas the health programme was able to demonstrate a measurable increase in utilisation of health services, and a better health status especially of the child, the sanitation programme was limited by a set of constraints that had not been anticipated, though in future programmes if planned for they could be overcome Both programmes were rich in giving rise to lessons that are useful for governments and NGOs to plan for fresh approaches to health and sanitation (see annexure A and annexure B for the experiences and recommendations of these programmes)

Where do we go from here ?

The respective ministries as part of a conscious decision to look for literacy campaign related models in health and sanitation sanctioned both the Ramanathapuram programmes But in changed administrative and political circumstances whether the political and administrative will for any innovative large scale replication of such initiatives will be available is a moot question

Certain facts are however incontrovertible The sanitation programmes if limited to the CRSP approach will take more than a hundred years to give a minimum acceptable coverage at costs that the nation is increasingly going to find difficult to mobilise Further the Midnapore model is also proving difficult to replicate without significantly modifying the original approach, more so when certain essential features of the original approach are also simultaneously undermined Similarly in health the entire public health delivery system is grossly under utilised and existing governmental efforts at community health workers and village health guides have not been able to deliver even the minimum expected. A quiet growing cynicism prevails on community participation, especially at the block level government functionaries

The current approach to health care delivery and to sanitation delivery has to change And it is our contention that the progressive phase of the total literacy campaigns and the subsequent literacy to health experiments can contribute significantly to evolving the alternative approaches that are so urgently needed

ANNEXURE A.

Conclusions Of Ramanathapuram Sanitation Programme

1 There is a considerable existing demand for toilets as well as a general awareness about sanitation Much of the demand for toilets rises more from the loss of privacy and other gender related consideration than from health concerns per se

2 The failure of such a large demand to translate into a market for private enterprise or even to a better utilisation of government CRSP schemes relates to a number of structural factors as well ass popular misconceptions This market at tits lowest estimate would still be about 25% of all households If a standard block has 20000 household it would mean 5000 toilets a Rs 1 5 to Rs 3 crore market Few other commodities could command such a ready market

3 One major structural factor that prevents the growth of a market for rural toilets is a lack of availability of credit. The lack of mechanisms to lend and to collect back low volume dispersed loans to innumerable rural consumers, given existing bank practices, contributes to this failure

4 Another structural factor that limits the growth of a market is the existing CRSP scheme which is directed to only those sections- below poverty line-whose desire for toilets is least and for whom other priorities exist for a cemented structure (storage of grain, firewood etc.) The sections above poverty line who constitute a majority should not access these toilets, though some do manage to get the toilets as a result of patronage relationships Enough persons, above the poverty line, manage such an access to provide a hope to all, such that a toilet could be got free (A number of other weaknesses also exist in the CRSP programme but that was not the focus of our study)

5 Misconceptions about what constitutes an ideal toilet amongst available technical options becomes and important bottleneck in a situation where consumers are expected to pay in full for their toilets In particular the disadvantages of a septic tank and the advantages of going in for upgradable leach pit models model which can be purchased according to the individual's affordability needs to be effectively conveyed to potential consumers

6 It is unlikely that at the present juncture market forces per se can make use of the existing demand The profit margins available compared to the capital investment needed may be insufficient attraction to the corporate sector An active policy of promoting delivery mechanisms where women's groups and rural youth look on this as a rural enterprise would be essential This also implies a state policy that provides resource support, training and credibility to initiate and sustain such innovative delivery mechanisms while allowing them autonomy from bureaucratic control as is essential for any enterprise

7 For PSM organisation like Tamilnadu Science Forum and Pondicherry Science Forum there are strengths to be gained from linking sanitation with post literacy campaigns, health programmes and with women's empowerment programmes Of these, the latter two are not only more promising options, they are the only feasible option at present (However, it government funding is willing to support such linked programmes it should be possible for PSMs to launch a major promotional campaign in about 100 districts of the country).

8 Participatory rural appraisal or the social mapping technique is a useful and essential

process of educating and involving panchayats and village level leader in sanitation work. If technical options for drainage become better defined, it would be possible with existing structures for us to work out village level or panchayat level total sanitation programmes. The most difficult and central issue-i e. the provisions of domestic toilets -having been resolved by the approach outlined above, the other elements of total sanitation like drainage and garbage disposal can be taken up by the panchayat with suitable technical support

9 The content of training curriculum of organisers, masons and motivators needs to be altered to take up and focus on may of the issues that this report identifies The content of IEC programmes must also necessarily be reviewed to include a greater focus on gender issues and latrines as a social status symbol And such IEC should draw upon commercial advertisement techniques to do this Further mass IEC should rigorously enter into discussion of cheaper upgradable technical options, as well as actively promote a better understanding of septic tanks (especially that its effluent can not be let out into open drains)

10 Water borne disease surveillance based on reporting of outbreaks of diarrhoea and of jaundice, which is both based on the community and on a systematised feedback from "sentinel" professionals is feasible and desirable It would help assess the programme but more important make such assessment a continuous feedback loop to improve the programme Water testing kits can also help assess the programme effectiveness but given the low specificity of low cost options available and the difficulty of organising better technological options for water testing, we would prefer to use it to dramatise water contamination where surveillance has uncovered outbreaks rather than make it part of routine

Recommendations

1 The sanitation programme can be usefully linked to community health initiatives or women's empowerment programmes for a greater effectiveness in implementation Ideally on or both of these programmes should bè operational for at least a year in the given area before the implementing organisation embarks on the sanitation campaign.. The scope for linking sanitation programmes with health programmes is limited by the difficulty of finding funds for community health initiatives without w3hich an effective health programme is difficult to organise On the other hand, women's empowerment programmes of the type we had initiated as part of this programme can be done without any external funding whatsoever and over a much more extensive area.

2 Existing post literacy and continuing education programmes can be used in a limited way for some general awareness work related to sanitation.

3 The content of a sanitation promotion campaign should include not only the existing messages but must build in a Major emphasis on

- gender specific issues especially on the lack of privacy and consequent loss of human dignity that results form the lack of latrines as well the health hazards and discomfort that result from the women being unable to access a toilet during the entire daylight hours.
- the availability of technical options for safe disposal of faeces that costs from as little as Rs. 600 to Rs 6000, and which are progressively upgradable.
- the inadvisability of septic tanks in the rural context especially if the effluents are to be discharged into open drains

4 The promotional campaign should not only be a education campaign, it should have two more dimensions

- it should be a clever advertisement strategy that makes use of the growing status connotation associated with latrines, especially as an essential "dignity need" for their women!
- it should focus on promoting a branded commodity of an existing commercial establishment or shop Thus on does not say BUY LATRINES, one advertises saying BUY SUGAM LATRINES or whatever is the brand name that we have chosen in that locality

5 It is preferable to withdraw the CRSP programme from an area where an alternate delivery system is tried Public latrines may however be actively encouraged in the later phase when more of the well to do have gone in for latrines and it has become their felt need also However the reallocation of the money available as subsidy to a smaller sum per latrine, by providing the pans and water-seal to every unit free via the enterprise would be a powerful initiative that would go a long way in making a success of the enterprise

6 There is further work needed in developing technologies in two areas One is to develop cheap but elegant super structures and the other is to make firm recommendations for cost-effective options for latrines in high water table areas (as often is obtained in the coastal strips)

7 The sanitary marts, the production centre and the provision of credit to consumers in the form of payment by instalment all require a substantial increase in credit outlay Even at a modest capacity of about 50 latrines per month the total credit requirements should be about 7 to 8 lakh per enterprise. This sum may be advanced by the ministry to a local bank in instalments and the bank may make it available as a case-credit scheme wherein though the total amount is available, it is drawn by the enterprise only as and when it needs it Part of this sum may be advanced from the bank's own resources As the viability of this gets established, banks may be willing to bear the entire responsibility of the credit which they clearly are unwilling to do so now

8 A carefully planned training programme for the programme functionaries is essential The training programmes and curriculum for the programme functionaries needs to be modified to include many of the aspects that this report highlights

9 Based on our experience of the last two years, we would advise the following programme design for a participatory approach to the promotion of sanitation This is particularly aimed for replication by PSMs nut it has a much wider applicability At the preparatory stage, even before the programme is initiated, a strong non-governmental support network is built up at the village level by organising women's small savings groups Simultaneously the continuing education schemes are utilised for some general awareness work related to sanitation When such work is satisfactorily completed and only when such work is completed on a totally voluntary basis, the sanitation programme is sanctioned This sanitation programme may have three district components that are funded for and operationalised in parallel The first is a high pressure multimedia publicity campaign, but with the content as outlined in this report The focus of such publicity should be the promotion of the branded products of the locally developed delivery system The second component is involving panchayats and villages in community initiatives for health, where a major aspect is participatory appraisal and planning for total sanitation and another important aspect is a surveillance of water borne disease. The third component is with appropriate training the setting up of a group enterprise of women or youth associated with the credit co-operatives to run a production centre and one or more sanitary marts Key to the success to this component is the provision of credit to consumers (not to so called beneficiaries) and therefore working capital to the

enterprise to the tune of over seven to ten lakhs through appropriate mechanisms

It is emphasised that all three components or some variant of these is essential for successful large scale replication of this programme Less would be sub-critical The insistence on a completely non-funded preparatory phase as outlined above is also an essential component to ensure that incapable or unreliable institutions and NGOs do not get burdened with this programme

LIMITATION:

Our recommendations are limited by the lack of experience that this project has strategy needed to promote panchayat level initiatives for designing and implementing village level sanitation structures like drains, low cost-sewerage options public toilets needs further action research inputs

ANNEXURE - B :

Ramanathapuram Health Programme -An Appraisal

The programme began in Ramnad in January 1997 and in Vellore in March 1997 in 60 villages in each district [spread over four blocks and two blocks respectively]

What are the special features of this programme ?

A The programme measures the impact it making on the health of the people This helps to improve the programme Such measurement is centred on the state of malnutrition, as reflected by weighing the child It is also measured by maintaining a record of vital events from which IMR and U5MR is calculated Utilisation of some of the PHC provided services is another indicator Record of certain disease outbreaks and prevalence of tuberculosis, are also to be entered The main innovation in this regard is the design of a single register that the health activist maintains, where this work is simplified to a single page that needs to be regularly updated (the vital event page) No report need be filed by the activist, and nay date needed by the district or block teams is collected by the visiting facilitator Efforts are also on to computerise this data and present it periodically in a readily understandable manner

B The thrust of the programme is on child health, and child malnutrition as measured by weighing the children below 5 year of age is taken as a holistic index of child health that is most suitable for local level planning on health Malnutrition is a reflection not only of child feeding but also of diarrhoea prevention and management, acute respiratory tract infection prevention and management, and access to regular de worming, vitamin A supplementation, anaemia correction etc

All these elements are attended to by regular family visits by the trained health activists, along with measures to ensure that the available services like food supplementation, immunisation, de worming, micro nutrient supplementation etc reach the child in need Further it is emphasised that it is by preventing the 6 month old child from slipping into malnutrition, rather than by correcting grade III and IV malnutrition, that a measurable impact at the village level can be realised The key innovation in this is the specific training input provided to the health activist to analyse the specific factors leading to malnutrition in the individual case, and for the health activist to provide in a participatory and non-prescriptive manner, the advice needed to save her child.

Women's health is addressed in four ways The first is to ensure that pre-natal services needed are indeed accessed and utilised Thus though pregnancies may be registered quite efficiently by the health care system, community initiatives are needed to ensure for example that the iron and folic acid tablets are actually consumed by the pregnant woman, or that the trained dais do indeed use their training, or that high risk cases are referred in time etc The health activists are ensuring this both by intensive health education and by family visits The second intervention, not yet quite effective, is to provide a degree of basic care for common gynaecological complaints with referral where appropriate The health activist does this, and also by training inputs to the traditional dais, who anyway is today doing this job The third approach is merely to document some of the discriminatory practices as related to women's health (e g differential feeding, low age of marriage, female infanticide etc -there is a whole range of such practices) and use it to initiate dialogue and campaigns The fourth major intervention is the initiation of support activities for the women of weaker sections-small savings groups, libraries and information access and support in the face of violence in addition to health The emergence of a vocal and organised women's group is seen as one of the important

programme outcomes Its sustenance after the programme period is one of the central challenges

TNSF Health Model - An Appraisal

C At present many of the villages have developed such women's groups and by the end of the programme all such villages should have done so We also seek to demonstrate that given such a context, improving and ensuring access to a set of family planning measures [Mala-D, condoms, and sterilisation] can by itself have a considerable impact on birth rates.

D Tuberculosis has been addressed by a mass case detection approach that includes house to house visits by trained volunteers and that is followed by a camp with doctors attending This is further followed up by activists to ensure that all those suspected are completely investigated till a diagnosis is established Subsequently the community organises measures to guarantee that the patient completes their course of treatment The key innovation in this is the development of a simple 4 group categorisation based on the patients complaints which stratifies patients according to the probability of their having the active disease This not only facilitates estimation of the caseload in the given village but also helps guide follow up measures Along the way a number of respiratory complaints or related diseases also get attended to Over 40 such camps have been conducted so far.

E The approach to leprosy is similar except that the focus is now on skin diseases Most common skin diseases can be treated with very gratifying results using very cheap medication usually available in the PHC The few cases of suspected Hansen's that are picked up in the course of such a camp are followed up till treatment is initiated and then on till the treatment is completed Only two such camps have been organised so far

F Water borne diseases has been more difficult to address. Intensive health education, especially when an outbreak occurs and is reported by our crude surveillance mechanisms appears to be the key In Ramnad integration with a sanitary mart has been tried but results to date are poor.

G The approach to curative care is designed to steer a way that avoids the dangers of setting up yet another group of RMPs (quacks) or of by passing the existing PHC structure The corner stone of the approach being tried is to infuse new life into the moribund drug depot scheme by developing it into a 30 item village medical kit. The health activist is trained to maintain this kit, provide first aid, and treat minor symptoms The availability and the definite increase in utilisation of ORS packets, condoms and Mala-D in this kit has no doubt contributed to its acceptance by the formal health sector Stress is put on developing a two way referral system, and the drugs in the kit are largely taken from the sub centre so that this acts as an extension of the PHC structure rather than as something parallel to it The key innovations in the referral system is a (that though one has an official 'enabling' letter from the district health authorities, we refer only to doctors whom we have approached and who are willing to cooperate b) We guide activists to refer only 'doctor-worthy' cases and c) we request the doctors to write their recommendations and keep the card with them, till they are picked up by or organisation A set of guidebooks is also an important part of this programme

H Government health sector participation in this programme is essential At one level government funding for this programme has played a vital role in ensuring its acceptability The high profile meeting held by the secretary, health and the field visit and programme evaluation by the director of public health have also facilitated such co-operation (However in Vellore district as the officials from this district did not attend these meetings the rapport is much weaker) The active co-operation of this programme with many government programmes like pulse polio (where some volunteers were even given vaccine carriers to cover more remote villages

on their own), and the visible increase in utilisation of inputs like vitamin A etc have endeared them to some local officials At least the VHNs, especially in Ramnad, have welcomed such support from within a village, and a guide note on understanding the problems of the VHNs have helped our volunteers to build a good rapport with them at the field level However such support is not uniform, and often, especially where there is an errant employee, there could be muted criticism On two occasions, there has been active hostility, both of them coming from areas where the official sanction for this programme has not been conveyed down.

I Involvement of the community and the panchayat is a continuing process We have tried to convene gram sabhas to discuss the health situation and seek support, but there is a lot of resistance to this idea-basically because no one wants the gram sabha for any purpose what so ever Over 4 gram sabhas have been held to date Village meetings are more successful, especially if linked to a programme activity like TB camps etc. Environment building work, especially the dala jatha has been done once and this has been quite successful Getting the panchayats to understand the health status and the determinants of disease in their area and what they can do about it, is still an unattained goal But as we ourselves are only now beginning to understand the programme better, such panchayat participation should become possible

J Though involvement of the community has taken place we have been weak in developing organisational structures where such participation could be sustained and enlarged. Work is on at present to develop women's small savings groups as well as women's health committees at the village level

K The selection of the health activists, their training and subsequently their support has been crucial for this programme to succeed Selection has been done largely by the existing block level TNSF team, itself a product of the Arivoli campaign, from amongst their contacts in the earlier campaign The panchayats concurrence if not active involvement in this process has been ensured wherever possible Obviously, it has been much easier where there was no break after the literacy campaign Interestingly our health programme is known as the Arivoli health program in the villages though neither the official mechanisms nor we have ever used this term Our direction was to prefer married women for selection as health activists, but often the selection remained the 19 to 21 young-unmarried women Where we did manage to get married women, getting them out for training was a big problem and often there was in-law problems etc However by our present experience we continue to prefer such women, looking more carefully for a woman who has completed her family, the second child having reached 3 to 5 years of age, and who has more supportive family

L The central problem of providing the high training inputs for these health activists, (given the fact that they would not be able to leave home for long periods at a stretch or repeatedly) has been addressed by providing for a full-time trainer for every 10 health activists These full-timers spend their major time in providing in-service training to the chosen health activists However each health activist is provided 20 days of camp level training in short stretches (4+2+2+3+2+1+3+2+1) of which 7 days are residential training. One important innovation is to match training input to field activity and on the job training (Thus, for example, a one-day training programme on tuberculosis is followed the next day by a case detection survey and within a week by a case detection camp) Our results so far have been limited by the tendency of the project team and the full-timers to see themselves as organisers or even as health activists but not as trainers which is what they are primarily meant to be. However some full-timers are able to play this role, and one hopes to correct this weakness in the coming months.

M Another major problem is to provide a high quality of support to the health activists, so that they are able to sustain their efforts The inertia of the village too easily discourages them Regular visits from the trainers who accompany them on the job are no doubt the most important source of support today Repeated efforts to form women's heath committee to assist in this task are also beginning to yield results The context and content of the committee is another key innovation Environment building activities (kalajathas, case detection camps, gram sabha, villages meetings, well-publicised visits by the entire project team or officials) all contribute to lessening her sense of isolation and to build an acceptance and welcome for her role within the village In many villages we have been able to get the panchayat chief to recognise her role in some visible way

N Providing support for health activists also brings up the question of monetary compensation Since her work allocation is only about 2 to 3 hours per day for about three to four days a week, it is possible for her to do so voluntarily, and indeed a number of them are willing to continue indefinitely in such a capacity However in most families an expectation of a monetary reward rises, especially as there are a number of similar functionaries who do even less but who get some compensation from the government (for example the balwadi ayah, etc) One does not rule out a sum paid by the panchayat from its resources or through a grant, but while waiting for it to happen we are trying to find alternative income generating activities that could supplement and provide the necessary argument to silence the nagging of the family Of course the development of a strong non-governmental and "peoples movement" identity is one crucial element in such sustainability. The opening of the small savings groups and its linkages with all types of women's empowerment activities is at present the most promising avenue for the development of such an identity Once such an organisation consolidates then the questions of compensation may be better addressed by them

O Expansion of such programmes is also a necessary condition of their survival One option is to expand the programme from this initial 60 villages to 400 villages and then to the entire district Government support for this will be requested for shortly Another option is to expand to similar 60 village programmes in 10 more districts This too has been applied for One has to be careful not to go for a precipitate expansion in the Arivoli (TLC) fashion and thereby kill or render ineffective a most promising approach. In the even of government funding not being forthcoming, or its terms being unacceptable, one can consider alternative scenarios of replication One scenario is to base it on a "Malar" style small savings network or on any organisation of women (like SEWA has done) Another is to base it on those panchayats where we know there are genuinely interested leadership irrespective of the geographical scatter of panchayats so chosen A third is to look for a number of TNSF activists who reside in a village and who are willing and capable of taking on a ten village cluster, with themselves providing the support that the full-timers would have otherwise provided

P Another important component of this programme is policy level intervention This is a program necessity as it prevents the build-up of unrealistic expectations Thus for example, one cannot abolish the effects of poverty But one need not also assume that nothing meaningful can be done without removing poverty Indeed one major outcome of this program has been a much better understanding in our district teams and even in the national leadership of what are the major health problems at the village and what can be done about it This understanding is reflected in our ability to intervene in policy making levels when invited to do so The frequency and variety of such requests is on the increase Our interaction with medical professionals who have got involved in the program has also been beneficial A state level

2 day workshop of doctors developed six theme papers on various policy issues that doctors are currently concerned with As the program replicates, the opportunities and the human resource for policy level interventions will obviously multiply Besides policy intervention will not remain confined to intellectual circles, but will involve vast sections of the affected people who from their participation in these programs will have a better a better set of demands than those dictated by the current culture of health

Summary Assessment of Program

Strengths

A very good team of all women full times trainers or resources persons has been built up in these districts In most areas of knowledge and skills their training is adequate In motivation and hard work, the team is exceptionally good

Good quality of honest date has been generated and is being continuously generated This is an excellent tool for program evaluation and improvement A number of other tools (program design features) have also been field tested for their effectiveness and their ability to ensure community involvement These have been discussed above

Weaknesses

As yet, the measured impact on health status is inadequate Partly this is a function of the duration of the program Partly, it is because the tools were only now being developed We will need to persist before a measurable impact can be demonstrated

The trainers own knowledge, skills and motivation are adequate But their ability to transfer it to the health activists remains insufficient As a result the program is centred around the trainers and not the health activists.

The quality of village level support is still not adequate However, specific strategies to address this issue have been initiated and we should know the results in few months

Involvement of traditional dais and involvement of schools remains inadequate but is picking up

The part time TNSF core or block team around which the program should be built remains weak It is the district team interacting with the full time personnel, which holds the program together

Finally our approach to ensuring sustainability of the program is still to be demonstrated

Opportunities

To build an approach that PSMs can widely replicate

To build an approach by which governments can invest a small amount to ensure community/panchayat participation and thereby ensure that the huge sums currently invested in the health sector are not wasted or fail to reach those who need it most

Threats

To quote on senior official who visited our program "There are already seven paid government functionaries at the village level who are supposed to do precisely these above functions (The tinp worker and ayah, the balwadi teacher and the ayah, the VHN, the school teacher and the trained dai) Now, you are saying that by adding an unpaid eighth worker, we would be able to make it all happen!"

There is a real danger, especially as the program loses its initial enthusiasm and when it is replicated that we just land up adding an eighth person to the already existing seven How can this be prevented? Have we sufficiently understood what differentiates this health activist and this programme from existing efforts?

STRATEGY FOR CONTROL OF DIARRHOEAL DISEASES AND WATER AND SANITATION (CDD-WATSAN STRATEGY)

Dipak Roy

BACKGROUND The manner in which poor child survival rates impact on macro-level social and economic development had not been appreciated adequately in the past, especially in the developing economic Although the relationship between child mortality rate (under 5) and Crude Birth Rate in a population is not exactly linear there is considerable evidence that among other factors the insecurity that persists regarding the survival possibility of a child (particularly a male child) does contribute to an extended family size

In the decade of the 80s, a great deal of emphasis was laid on the elimination of vaccine preventable diseases and considerable success was achieved The Infant Mortality Rates declined substantially from 101 per 1000 live births during the period 1978-82 to 79 per 1000 live births in the period 1988-92 However the mortality among children under 5 years of age group still continued to be high and one of the major contributing factors was diarrhoea and related causes For instance the report on the Survey of Causes of Death (1992) by the Office of the Registrar General indicated that diarrhoea was the cause of death in 11 2% of male children and 18 8% of female children in the age group 1 to 4 years On an average every child was found to be suffering from 3 episodes of diarrhoeal every year and an estimated one million children died of such episodes annually The effect in terms of nutritional losses on those who survived is devastating A strategy to combat diarrhoeal diseases was therefore formulated in the early 90's to bring about a sustainable reduction in the occurrence of diarrhoeal diseases particularly under 5 years of age
The strategy was two pronged on the one hand to promote action that would prevent the occurrence of diarrhoeal among children and on the other, to introduce practices that would reduce the possibility of dehydration and therefore mortality in a episode of diarrhoea Since the major causes of occurrence of diarrhoea are poor hygiene, lack of sanitary facilities and use of unsafe water, the preventive component of the strategy dealt with improvement of water and sanitation facilities and activities to ensure better utilisation of the facilities and adoption of improved hygienic practices At the same time the strategy was designed to encourage better case management of diarrhoea at home. It was called the strategy for Control of Diarrhoeal Diseases and Water and Sanitation or CDD-WATSAN for short.

The three specific objectives of the project were

- **Improving access to safe water sources**, sanitation and health services, that include provision of safe water for every 150 people with a per capita consumption of 40 litres per day, community-based maintenance of water sources for substantially low-cost option for sanitary facilities, availability of ORS packets and access to measles immunisation at village level,

- **Promoting key practices for prevention of diarrhoea**, that include motivating people on the safe use and handling of water for personal and domestic hygiene, safe disposal of excreta, including that of young children, hand washing with soap or ash before eating or handling food and after defecation/disposal of children's stool, exclusive breast-feeding for infants during the first

four to six months, and immunisation against measles

- **Promoting key practices for proper management of child diarrhoea,** including timely administration of Oral Rehydration Therapy, continued feeding and seeking timely and correct referral outside the home

THE PROJECT AREA The CDD-WATSAN strategy was introduced in one district each of 15 states in 1992 In Orissa, a second district was brought under the project umbrella since 1996 The project districts are :

Allepy	(Kerala)
Allahabad	(Uttar Pradesh)
Alwar	(Rajasthan)
Ambala	(Haryana)
Anantapur	(Andhra Pradesh)
Delhi	(Delhi)
Dhar	(Madhya Pradesh)
Kamrup	(Assam)
Medinipur	(West Bengal)
Mysore	(Karnataka)
Nasik	(Maharashtra)
Panchmal	(Gujarat)
Periyar	(Tamil Nadu)
Phulbani	(Orissa)
Ganjam	(Orissa)
Ranchi	(Bihar)

Before launching of the strategy; baseline information was collected in each of the district on

- diarrhoeal morbidity
- Availability and use of safe water
- Availability and use of safe means of excreta disposal
- Case management of diarrhoea including use of Oral Rehydration Salts
- Personal sanitation and hygiene practices
- Prevailing practices relating to collection, storage and use of drinking water

The baseline information was used in preparing district specific plans

This paper discusses the approach adopted and the experiences from the two project districts, namely Ganjam and Phulbani

MODE OF IMPLEMENTATION The Project has been designed using the Logical Framework approach (LFA) The LFA matrix was developed in a joint consultative process in which all the Project partners examined the goal, objective, outputs and activities and set measurable indicators for each of these One of the key principles of implementation of the CDD-WATSAN strategy is convergence of services.

Since the strategy is aiming to bring about a transformation in attitudes and practices relating to health, the role of health workers and Anganwadi workers is crucial Further the emphasis is not only on increasing access to services but also on promoting the use Community mobilisation therefore is an essential aspect of the strategy Encouraging communities at the village level and particularly women to take active interest in planning and implementation of water and sanitation facilities is also a major stated objective In this sense the CDD WATSAN strategy varies significantly from other water/sanitation programmes which are traditionally service delivery oriented and therefore supply driven Demand generation and a conscious attempt to examine the related issues critically in the context of available resources is a major process objective to be achieved.

Panchayats as the legitimate and statutory representatives of the community assume an important role in the entire planning and implementation process. However, the panchayats were conspicuous by their absence when the strategy was launched in

Orissa In fact the history of panchayats is a checkered on In 1997 panchayats have been revived and since then a great deal of influences is being laid on creation of awareness among representatives of the panchayat system at block and district levels

Although provision of water and sanitation facilities constitutes the core of the physical interventions, a number of other sectors provide crucial support in the implementation process These are- the Health & Family Welfare Department, the Department of Primary Education, and the ICDS sector Besides, NGOs are equal partners in the process

At the district level there is a Coordination Committee The Collector is the Chairperson of the Committee. Since several government departments are involved this was considered the best option. The District Rural Development Agency (DRDA) is the nodal point at which the project is administered The Project Director of DRDA is designated as the Ex-Officio, Project Director of the CDD/WATSAN project and convenor of the district co-ordination committee Members of the health, education, rural water supply and sanitation, Panchayat Raj, Women and child development, Information and Public relations, are all members of the district committee Selected non-government organisations have been co-opted into the committee These NGOs are selected based on their history of involvement in various development programmes particularly in promotion of hygiene and sanitation The committee meets at least once in every quarter

In the beginning of the current phase of the project the group deliberated for two days on the output and activities to be taken up as a part of CDD/WATSAN interventions Besides in this workshop the indicators for project monitoring were also set by the district level committee members in small working groups, which were finally vetted, in a plenary session. This ensured that the project objectives, activities and monitoring indicators were owned up by all the state holders in the project

INTERVENTIONS:

Broadly the interventions designed under the strategy can be summarised as follows

Increase in access to and use of water facilities:

The primary objective is obviously to ensure that the basic norm is achieved in terms of providing at least one safe water source within 1 6 kms to every 250 population and then to ensure a source in every habitation However this is a goal which the state was anyway committed to achieving The additional emphasis in the CDD/WATSAN Strategy was to ensure

- Water sources currently being used in the unreached areas are improved. This meant improving the quality of water from traditional sources like springs and surface water bodies Improved designs for spring protection were developed and field tested in Phulbani district to cater to the needs of populations living in remote and scattered habitations away from the main village

- Improving the quality of water from handpumps to make them more acceptable High levels of iron in ground water made it unacceptable to people even if it was promoted as safe water Maintenance friendly and low cost iron removal plants have been designed to make the water more potable

- Ensuring sustainability of yield from deep tubewells Quite a few tubewells older than 6-8 years have turned low yielding The problem is further compounded in such cases where GI casing had been used Tractor mounted compressors are being used to flush these wells so as to improve both the quantity as well as quality of yield Thus tubewells which might have become defunct over the years have been rejuvenated

- Ensuring uninterrupted supply from handpumps by reducing downtime This is being achieved in two ways- by improving pump design and by decentralising handpump maintenance Open Top Cylinder versions of deepwell handpumps with 50 mm Riser Pipes have been installed on all tubewells in two blocks by replacing existing IM II handpumps as a demonstration exercise. Further village level Self-employed Mechanics (SEMs) have been trained to perform all routine repairs under the supervision of Gram Panchayats Together this is expected to bring down both the average downtime as well as the repair and maintenance budget The State Government is also observing the system carefully for possible replication

- Monitoring of water quality by community members monitoring the quality of yield from drinking water sources has been initiated in a small way by training Panchayat members to use portable water quality test-kits

Increasing access to and use of sanitation facilities: Till recently the Rural Sanitation Programme in the state was basically supply driven with an explicit and total emphasis on installation of sanitary latrines Since 1993 the Rural Development Department has been experimenting with communication and social mobilisation activities using the NGO networks A range of options was also introduced in the designs of low-cost sanitary latrines constructed in the programme Studies conducted in Ganjam district indicated that considerable demand and consumer interest had been generated in the district because of the implementation of the CRSP/MNP funded programme and other activities in the sector for the past decade or so In 1997 there were more than 130 small-scale units in Ganjam district, which were manufacturing low-cost latrine hardware entirely in the private sector Besides there were nearly 60 other dealers who were also trading in sanitary hardware in the rural areas The total number of sanitary latrine units installed through this non-subsidised channel was estimated to be nearly 30,000 or at least two-and-a-half times that installed through direct case subsidy in a comparable period This was an existing network, which had to be capitalised upon In the CDD-WATSAN strategy emphasis is, therefore placed on creating demand rather than promoting adoption through subsidy To co-opt this group into the programme the entrepreneurs/masons from these private production units are being oriented in manufacturing an improved design of pan/trap, which seems to find greater acceptance among consumers

Ganjam which is a relatively more prosperous district than Phulbani has shown grater potential for increased coverage in sanitation than Phulbani There are a number of constraints in the latter district firstly the density of population is very low (77 per sq km) which reduces the load of human waste in the environment secondly per capita incomes are highly depressed with more than 80% of the families living below subsistence level thirdly there is still a good deal of forest cover and natural

vegetation which provides adequate cover and privacy Even in such conditions it has been possible to create a demand for sanitary latrines through demonstration and intensive social mobilisation In areas where there is relatively little private initiative in Phulbani Production Centres are being established by NGOs, DRDA or by the "Nirmiti Kendras" of the DRDAs Training of masons and Production Centre is also being organised simultaneously A limited number of Rural Sanitary Marts have also been supported by the Project

Focused campaigns for creating awareness of hygiene and social marketing of sanitary latrines are important activities, which are being carried out in both district A variety of media are used they include professionally produced health education software in video format, audio skits et cetera, street plays, reminder materials like wall paintings and posters as well as small group sessions in which animators talk to men and women using flash cards and flip charts Intensive weekly follow-up and monitoring by volunteers and animators in limited areas is yielding valuable data on behavioural changes in key parameters

Promoting key practices for prevention and management of diarrhoea. The networks of peripheral workers of the Health and ICDS wings are the main communicators of these messages Joint training of AWWs and ANMs has been conducted in both districts to generate a common understanding regarding the messages to be disseminated In areas where the Health/ICDS Programmes do not have adequate reach, field workers from NGOs provide complementary support

Specifically the emphasis is on

- Hand washing after defecation, before eating and handling food and after handling children's excreta
- Exclusive breast feeding of children till the age of 4 months
- Measles immunisation
- Oral Rehydration Therapy including use of ORS
- Safe handling of water and food at home

Lately the linkage between water/sanitation/hygiene, nutrition and health is being emphasised as a package

Hygiene campaigns in school are being taken up Primary school teachers have been trained to initiate and facilitate learner-centred activities relating to hygiene and sanitation Schools are being conceived as "knowledge centres" to promote messages in the teacher-child-child-parent-community chain

Strengthening stakeholder capability
All stakeholders are being oriented in the convergent approach to achieve synergy The main groups are

- ◊ Government functionaries
- ◊ Panchayat representatives
- ◊ Institutional NGOs like Scouts and Guides, NSS
- ◊ Grassroots NGOs
- ◊ Other corporate groups who are participating by pooling resources for media campaigns

Field visits, cross-project training programmes, and formal trainings are organised to encourage exchange learning experiences Monitoring meetings become the forums for exchange of crosscutting issues and for strengthening inter-sectoral linkages

OUTPUTS. The obvious question that arises is what is the impact of the application of such a convergent strategy A mid-term review carried out in 1997 provides some clues The review showed predictably that the impact has been more

pronounced in Phulbani which is an older project In Ganjam where the Project interventions have been initiated in as late as middle of 1996, the changes are more noticeable in the processes and in terms of the significant transformation of the development administration in the district

In absolute terms the coverage with safe water has increased in both districts. All villages in both districts had at least one safe source of safe water. In Phulbani there was one handpump available for every 120 population while in Ganjam the national norm had been satisfied. Nearly 90% of handpumps were in working order Incidence of diarrhoeal diseases in the age group 0-5 years has been more than halved. In general there is a reduction in the diarrhoeal mortality as apparent from the PHC reports Most important, it has resulted in the sensitisation of field workers to hygiene and sanitation District administrations in both districts have become responsive to diarrhoeal morbidity and mortality These are changes, which can have long term impacts

A Report On CDD-Watsan In Midnapore

Arun Bal

CDD-WATSAN, as a strategy, was introduced in Midnapore in 1993 From the implementation point of view there was a tri partite collaboration between the UNICEF and the Ram Krishna Lok Shiksha Parishad, Naraendrapur on one hand and the District Administration and the Midnapore Zilla Parishad, the apex Panchayati Raj body in the district, on the other There already existed a well organised network of Youth Clubs in the district, which was working closely with the Ram Krishna Lok Shiksha Parishad, Naraendrapur It was expected that with the experience of Ram Krishna Lok Shiksha Parishad, Naraendrapur, it would not be difficult to synergize the efforts of these youth clubs in the rural areas, helping in the implementation of the ISP, with those of the local Panchayati Raj institutions Since the Panchayati Raj institutions have been in place for more than 20 years now, it was expected that there involvement in a big way would provide a major boast towards the achievement of the goal as outlined in the strategy

CDD-watsan; Aim & Strategy

The ultimate goal as outlined in the project logical framework was to effectively contribute to the Government of India's as well as the Government of West Bengal's avowed goal of reducing infant and under 5 child mortality This was to be achieved by ensuring a sustainable reduction in morbidity from diarrhoeal diseases in Midnapore, with a special emphasis on the aforementioned target group A five fold strategy was adopted for this·-

1 Increased access to and use of sanitation facilities

This was to have been done primarily by

- Establishing alternative production centres in a decentralised fashion for manufacturing low cost sanitary latrines,
- Provisioning for sanitary facilities in schools,
- Organising a group of dedicated motivators,
- Awareness generation among the target group,
- Training of production centre workers as well as masons at large- keeping special provisions for training of female skilled labour

2 Increased access to and use of water supply of the approved quality and quantity standards_

This was to have been done primarily by

- Fixing up the agreeable standards – both qualitatively as well as quantitatively,
- Taking up a time bound project for provisioning for water as per the agreed standards,
- Installation of VLOM pumps – TARA as well as Mark III – in adequate quantities ,
- Training installation and maintenance of pumps;
- Training in water quality standards, surveillance and treatment

3 Improved practices for the prevention of diarrhoea·

This was to have been done primarily by

- Providing a major thrust to IEC activities and social mobilisation, including through personal contract,
- Establishing and strengthening village level groups,
- Training various NGOs in the form of youth clubs etc,

- Emphasising on hygiene education in schools,
- Integrating the activities of various organisations in this field such as AWWs, health workers etc

4 Improved management of diarrhoea with particular emphasis on home Management.

This was to have been done primarily by

- Training of village level health workers to further introduce the concept of home management to the community – this has reference to training in use of not only ORS packets but also available home fluids,
- Establishment of ORS depots in villages and ORT corners in hospitals etc.,
- Provisioning of ORS packets for social marketing,
- Organising pre-epidemic campaign on diarrhoea management

5 Strengthened network of primary and secondary stake holders to manage and implement the various aspects of the project

This was to have been done primarily by

- Awareness creation among key functionaries at district level / block level / among NGOs etc ,
- Awareness creation among G P members / village level functionaries / NGO functionaries etc ,
- Formation of user's committee for each water source – with more than 50% members being women,
- Monitoring / follow up action through various grass root level institutions such as ICJCKs etc ,
- Integrating the concept of CDD-WATSAN strategy with the continuing education programme in Midnapore district,
- Formation of CDD-WATSAN upa samity at the village level

Operational Aspects

Financing

The first operational aspect dealt with was the financing of the various components of the CDD-WATSAN strategy This involved dovetailing the various on going governmental schemes and supporting them by aid from UNICEF While it was decided that besides the CDD programme, funds available under CRSP, MNP, ARWSP etc Shall be utilised, the UNICEF, on it's part, was to take care of the funding of several key components, specially in terms of advocacy, introduction of new concepts, training, motivation and various material components like provisioning for the TARA and Mark – III pumps etc besides helping in setting up RSMs etc

Currently the Sanitation component of the CDD-WATSAN is being funded from CRSP by provisioning for subsidy for all BPL beneficiaries, while the water component of the programme is a joint effort of the ARWSP, MNP, BMS and the UNICEF Under this scheme, the UNICEF has provided 2800 Mark III pumps and 5335 TARA pumps It has also provisioned for training, monitoring etc

Status

A few salient features of the CDD-WATSAN related work are:-

- Number of Blocks being taken up · 54
- Number of villages being taken up 8116
- Number of youth clubs catering to these areas . 982
- Number of cluster organisations evolving from these youth clubs 15
- Number of production centres cum sanitary marts 35

- Number of villages declared sanitation villages 219
- Number of Blocks declared sanitation Blocks 1

The performance in various aspects of CDD-WATSAN related work is as follows

1 Training
- Number of courses 3,205
- Number of participants 1,42,178

2 Advocacy Programmes
- Number of activities (including home visits) 7,98,462
  Number of participants (including due to wall writing) 1,61,15,774

3 WATSAN activities

As Shown in TABLE 1

CDD-WATSAN : AN IMPACT

The project has had remarkable success in promoting low cost latrines with full coverage in some villages, gram panchayats and a block There are many more on the anvil and there is a strong likelihood that the coverage will be extended throughout the district Latrine hardware is made production centres situated at the block level The advocacy is done by a group of clubs that have organised themselves into cluster organisations These cluster organisations, 15 in all, have a duly elected executive committee that runs the cluster organisations on a day to day basis Besides the advocacy component, these cluster groups also look after the production

The programme offers a total of 12 models ranging in costs from Rs 375/- to Rs 3500/- Subsidies are provided only to families below the 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 a 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 latrine Another salient aspect was brought to light when the recent KAP study indicated that usage rates in the district were very good, at over 90%

Less progress has been made in providing sanitation in schools, largely because funds for this in the project are very limited Initial work is underway in 6 blocks The Government already provides some funds for school sanitation and moves are afoot to get more funding on this account

A very significant aspect of the CDD-WATSAN strategy is the concept of ***'Our pump, our problem, our solution'***. In this context seven member water committees have been formed for each pump to look after the maintenance of TARA pumps. In Midnapore a decision has been taken at the district level requiring some level of contribution from the beneficiaries themselves, prior to installation of water supply. Accordingly bank accounts are opened for these user committees. In these are deposited the cost for the pump apron (platform), which costs Rs 1000/- In addition, villages are encouraged to contribute monthly @ Rs.0 50 to Rs 1/- per family to a maintenance fund to cover the cost of repairs These trained Village Water Committees –VWCs – have the responsibility for collecting the household contributions to pump maintenance, for promoting the proper use of the water source and for assisting the hand-pump caretakers

There has also been an emphasis on adoption of institutional arrangements to improve practices for the prevention of, and management of , diarrhoea There is considerable emphasis on hygiene education at the village level, with the home management of diarrhoea focusing on the usage of oral re-hydration salts (O R S) through locally managed depots in all major villages and on the use of home available fluids There is evidence, from feedback by villages, youth club members and Panchayat representatives, that not only has the incidence of diarrhoea decreased on one hand, but the home management of the same is superior now

School Sanitation

In this section, there is only one paper by Dipak Roy, which highlights the importance of a child as a motivator. The paper substantiates the claim of children's influence in the purchasing behaviour of a typical family, which has been recognised by the Consumer industry in the country. It stresses on the promotion of hygiene and sanitation in primary schools, using the experience gained by the Unicef in school sanitation programmes in Orissa.

Water and Sanitation Education Programme In Schools of Orissa

Dipak Roy

The state of health of children has direct impact on the enrolment, retention and achievement levels in the school system High incidence of illness and poor health are not the result of economic deprivation alone lack of basic awareness, inappropriate attitudes and incorrect practices relating to hygiene and sanitation are the underlying causes It would not be an exaggeration to say that a majority of childhood ailments can be prevented by ensuring use of safe drinking water and adoption of basic hygiene practices School - through the formal learning environment and as informal socialising influence - can be excellent channels for developing the correct attitudes and practices among the young learners Besides improvements in hygiene and sanitation and the resultant gains in health status can enhance retention & achievement in school This causal relation between hygiene/sanitation and learning has been presented in Figure 1

As mentioned earlier there are two ways in which hygiene and sanitation training can be provided in schools

- In the formal classroom situation by introducing the basic concepts in the school curriculum,
- Within and outside the classroom by establishing and constantly reinforcing hygiene behaviour through demonstration and peer pressure

Attempts have been made to integrate the relevant concepts of sanitation in the existing curriculum within the broad framework developed by NCERT What children learn from textbooks in classrooms gets further reinforced, and translated into practices in daily life through a series of activities which can be initiated and then facilitated by teachers The learners can then be the "change agents" - the prime mover in changing the environment at home The power of the "child" as a motivator who influences purchasing behaviour within the middle class family has been well recognised by the consumer industry The same reasoning can be extended in promoting hygiene in the community A programme for promotion of hygiene and sanitation in Primary schools of Orissa was conceived with the above issues in mind

The need for such a programme in Orissa can not be over-emphasised Till 1994 Orissa had the dubious distinction of being the state with the highest Infant Mortality Rate (103) in the country Sanitation coverage in the rural areas is one of the lowest, the 1991 Census indicated that less than 4% of the rural population had access to safe means of excreta disposal Nearly 88% of the school children examined in 1996 in the school health check-up programme in 1996 were found to be suffering form one form of illness or other At least a quarter of them were suffering from worm infection or scabies - both of which are caused by poor hygiene and sanitation The dropout rates at primary or elementary stages exceed fifty percent of the enrolled children at the beginning of schooling

The programme was launched in Orissa in 1996 It attempts to develop awareness regarding use of safe drinking water and importance of sanitation along with fundamental concepts of health and hygiene among the students

Objectives

The major objectives of this programme are

1 To develop awareness of school going children in the following areas of hygiene and sanitation
   a) Personal hygiene
   b) Home sanitation with emphasis on food handling
   c) Care of drinking water
   d) Disposal of waste water
   e) Safe disposal of garbage and animal excreta
   f) safe disposal of human waste

2. To encourage schools students to examine their environment critically and to act in a manner which would make it more hygiene and sanitary

3 To use schools as "knowledge centres" for safe water and sanitation assuming the following linkage

Teacher ➡ child ➡ child ➡ child ➡ child ➡ parent

TARGET GROUP

Immediate School going children at

i) Primary School and
ii) Secondary school stages of Orissa

Ultimate

i) Family members of the targeted children
ii) Members of the community

COVERAGE

Present Coverage : Kandhamal and Ganjam district of Orissa with UNICEF assistance

Planned Coverage Angul, Bolangir, Dhenkanal, Keonjhar and Nayagarh district with the assistance of HRD cell of Rural Water Supply and Sanitation Dept of Orissa

Targeted Coverage. All the 30 (thirty) districts of Orissa

STRATEGY

Resource Management

The resource management of the programme is demonstrated in **Figure 1**

The Water and Sanitation Education Cell in the Directorate of Teacher Education and SCERT is the state level unit which in collaboration with UNICEF prepares, implements and monitors the programme At the district level respective District Institute of Education and Training (DIET) and the College of Teacher Education (CTE) act as nodal agencies for implementing in primary and secondary schools of the district respectively

At the district level the resource support of the district/block administration and Non-Governmental Organisations (NGOs) are mobilised The district level administration includes the general administration, departments of health, education, rural water supply and sanitation, horticulture and similar government organisations

The pedagogic inputs are planned at the SCERT level The state level core team prepares the training modules. **(Figure 2)**

Preparation of materials and training of key resource persons (KRP) are conducted by the core team at SCERT level Training of resource person (RP) is done at DIET level and training of teachers is done at centre school or cluster resource centres (CRC) The teachers' training conducted as part of Joyful Learning is extremely useful at this state. The Village Education Committees (VEC) and the Parent Teacher Association (PTA) of each school are mobilised to strengthen the transmission of basic concepts of Water and Sanitation by children to their families and communities..

Figure 3 Pedagogic Management System of the programme

Evaluation, Monitoring and Support system

For providing appropriate and timely support, continuous feedback regarding the adoption of practices by the learners in and out of the school and by the family and community members is absolutely necessary Figure 3 presents the system for monitoring and evaluation support (EMSS) of the programme at the district or block levels

For continuous monitoring, evaluation and support the agents have been broadly divided into two categories - internal & external to the school Peer groups and personnel of school administration do the above mentioned jobs inside the school so far as practices in the school are concerned while the external agents and educational administrators like block or district education officers (Sub-Inspectors of schools and District Inspectors of Schools respectively), district core teams constituting members from DIET or CTE, district and Block level administrators and some NGOs working the area supervise the community practices as well as practices in the school in course of their involvement in other developmental activities

The extent to which the families of learners and the community members are benefiting from the programme can be monitored by the learner himself/herself, the peer groups and the teachers as well as the member of village education Committee (VEC) and other opinion leaders **Fig 4 :**

Achievements

Within one year of inception, the progress in different areas of programme has been quite significant

1 **Teacher Training Package** - Two packages, one each for primary and secondary school teachers have been developed by the core team and have been finalised after wide tryout

2 **Teaching Learning Materials** - Low cost and no cost teaching materials have been developed by 30 teachers in a workshop held during 27 to 29 August 1997 at Tikabali and a TLM bank has been initiated.

3 **Schedule of evaluation** Already developed

4 **Training Programme**

	Kandhamal	Ganjam
a) Training of KRPs	5	5 (Completed)
Both for primary and secondary school		
b) Training of RPs	175	
Completed	120	
c) Primary School Teacher at cluster level in six blocks	1091	
(at Bhanjanagar) at Tikabali)	100	

All the training programme of the teachers and RPs had been of three days duration Besides transacting the modules/packages in two days, one more day was devoted exclusively for initiating teachers in developing and using teaching learning materials (no cost and low cost)

Care has been taken to include more lady teachers who have evinced keen interest in the activities and possess potential in translating into actions in the school and community situations

The Future

There are two course of action being taken simultaneously consolidation and scaling-up

Consolidation. The present curricular and management systems can further be

strengthened so as to make it more forward-looking thus allowing sufficient flexibility into the system

a) **Curricular** . Strengthening and focussing existing curricular provisions

- Defining with precision and enlarging the existing MLL curriculum & curriculum at secondary stage
- Integrating additional messages in different areas of existing curriculum wherever possible without overloading it
- Developing supplementary reading materials for teachers and students.
- Planning and conducting more activities in and out of school relating to hygiene and sanitation.
- Publishing a new bulletin on water and sanitation

b) Management

- Further strengthening monitoring and supervision mechanism by making these more participatory The involvement of NGOs shall be further strengthened in these activities

- Instituting incentive programmes for best performing (i) student (ii) teacher (iii) schools (iv) workers (v) Cluster Resource Centres

Scaling up The - programme has potentials of wider expansion in different areas

- It has been targeted to extend the programme to all 30 districts of Orissa
- Curricular extensions can be made by extending the existing provisions to other areas of basic essential of health and hygiene like, developing a health package for school students including messages of
- Environmental Education
- Health Education
- AIDS Education
- Sex Education
- All contemporary health problems

Resource Management System (RMS)

The resource management system of the programme is demonstrated in Figure 1

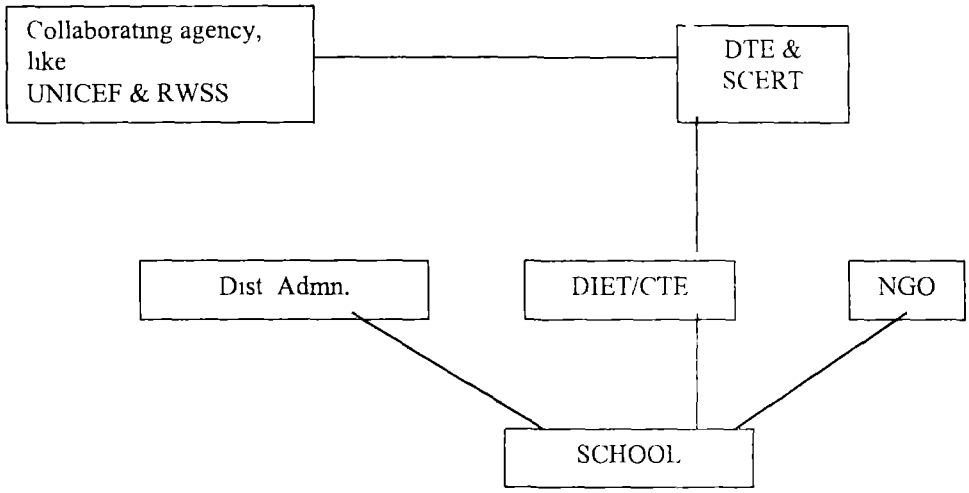
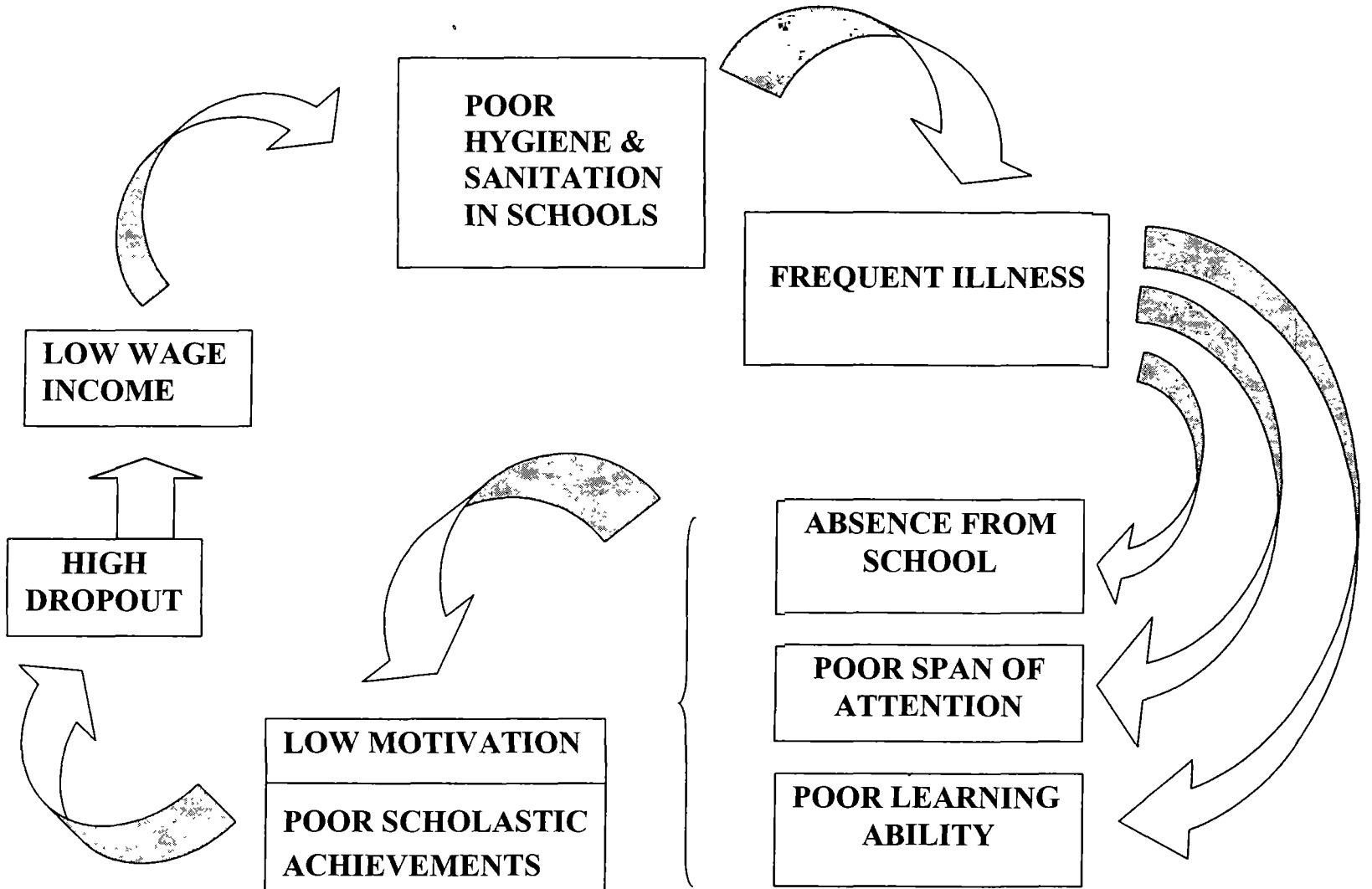


Fig 2 Resource Management System of the programme

RELEVANCE OF SANITATION & HYGIENE EDUCATION IN SCHOOLS



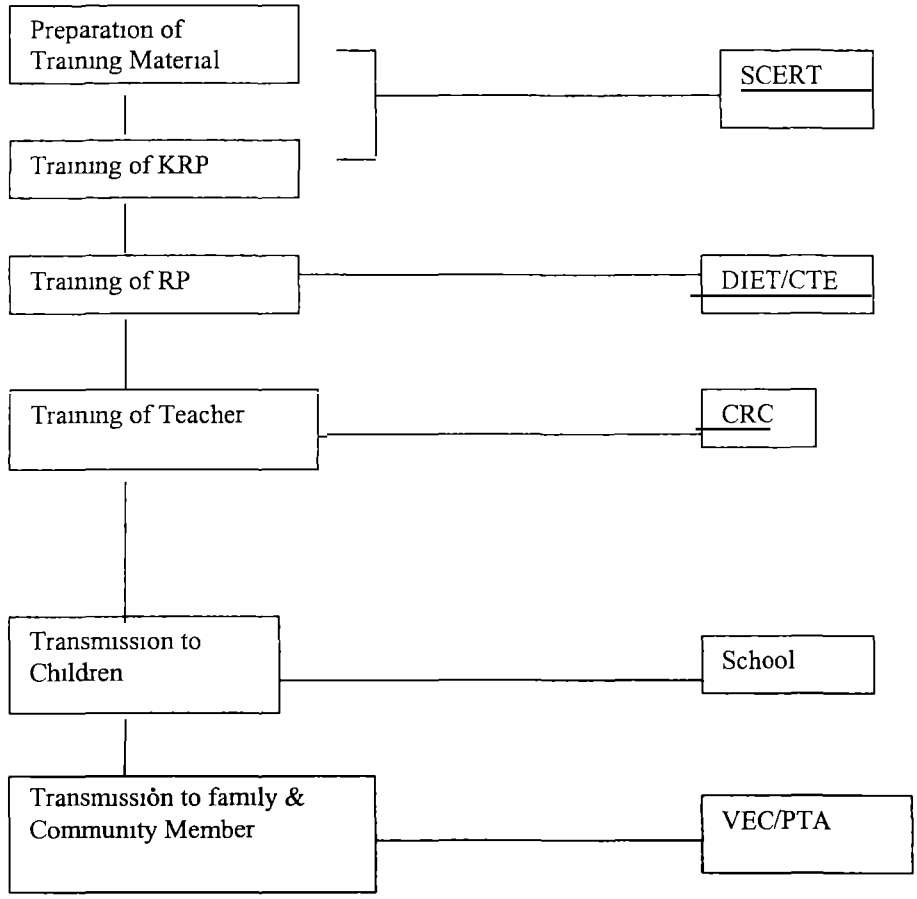


Figure 3 : Pedagogic Management System of the programme

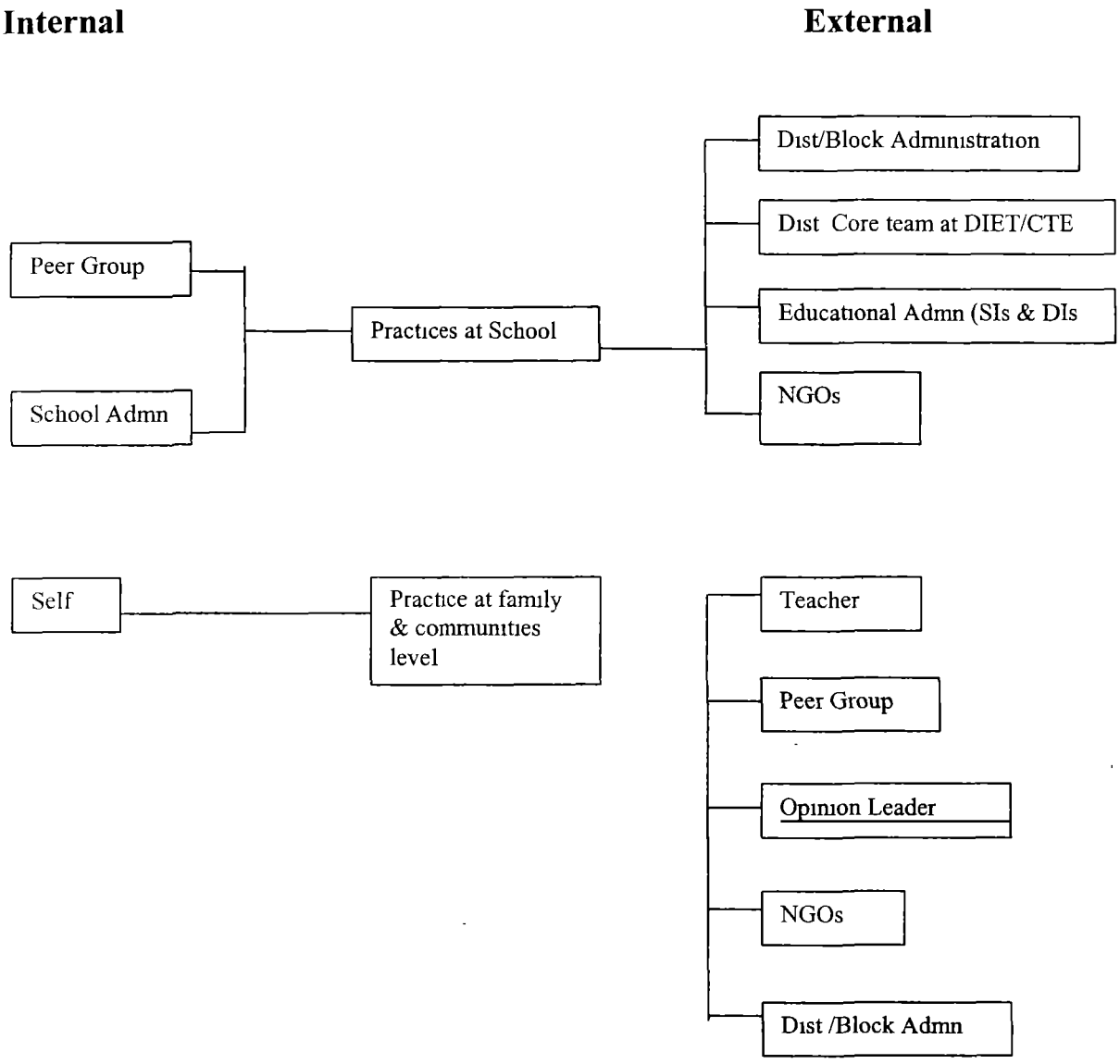


Fig 4 : Evaluation, monitoring and support system of the programme at the district block level

Construction & Technology

This section has the maximum number of papers in this book, reflecting the importance of Construction and Technology in making the rural sanitation programmes a success.

The first paper by Ganapathy, Kalimuthu & Subburaman identifies the reasons for people's ignorance and doubts in using the existing latrine types and suggest remedies for the same.

The next three papers highlight the importance of Vermi-composting and its importance in making rural sanitation programme a success by providing economic viability for the user.

In their paper CR Patil & Radha Kale explain as to how Vermiculture is economically and technically viable, such that it can be employed for positive ends, while Padma Vasudevan and Seema Sharma in their paper stress upon the importance of networking at the National Level for making sanitation programmes effective In their paper Padma Vasudevan, Vidyasagar & Satyawati Sharma highlight as how economic feasibility could be achieved by adopting Vermi-composting & recycling of bio-mass.

The next paper by Paul Calvert suggests various low cost sanitation methods for water logged and high water table areas, where the generally accepted types are harmful than being beneficial.

The last paper in this section by Ishwarbhai Patel, highlights the various types of laterine models available which can be used depending upon the available material, manpower, geohydrological conditions, etc.

The Village Sanitation And Latrine Promotion Programme

Chandra Ganapathy, A. Kalimuthu, & M. Subburaman.

Village : Its existing condition:

The serene and beautiful villages are not so when you have a closer look at them The outskirts, the streets and the by lanes are filled with filth and dirt You can not enter a village form any direction without passing through faeces on the way As you walk along the village roads, you will see people squatting on the sides to defecate It is a disgusting sight to see people defecate in open People, especially women young and old, venture out in the dark to defecate to avoid public view

In earlier days people used to go to remote fields for defecation As more area is brought under cultivation and with ever growing population who are occupying the available areas which were fallow for the past many years by constructing their houses It is difficult to find such fields and people are forced to use the public roads and pathways The school going children and other pedestrians undergo a great ordeal The village and its surroundings provide a very suitable situation for the spread of flies and diseases like diarrhoea, jaundice, polio, cholera, worm infections etc ,

People's ignorance and doubts:

When someone talk with the community regarding the sanitary condition of their village and its effect on spreading various diseases, especially while suggesting to go for constructing sanitary latrine, they raise the following doubts

1 Building a latrine is very expensive An early morning stroll and open defecation is considered inexpensive and easy

2 A latrine close to house will give bad odour

3 Latrine is dirty

4 Water available will not be sufficient for maintaining a latrine An early morning stroll and open defecation is considered inexpensive and easy

5 When there is not proper house to dwell, why so much to think on a latrine

In such situations, it is necessary to have an awareness generation camps especially giving emphasise to sanitation related diseases Before any one starts the awareness generation, it is very important for to have a clear understanding on the existing situation of that particular village, a through base line survey is to be conducted This one can do by various methods like PRA, house to house survey or through group meetings Once the above work gets completed, it is necessary to identify the key areas of potential danger, prioritise them and prepare the messages for the awareness generation camps This can be carried out by ·

- Through public meetings, group discussions and cultural programmes.
- Preparations of appropriate education materials like posters, flip charts, skits, lessons, pictures, catchy slogans, and wall paintings Real life experiences, which were fatal to a concerned member or family, can also be shared which will make the people compare

themselves with such incidences and start thinking on it

- Intensive Hygiene education through individual contacts, family visits, focus group discussions, schools These education activities will be at any place as convenient to the people The health workers should try to meet the people at home, at works or during their time of relaxation and these visits should not affect their work while trying to passing on with the messages

- In schools lessons, stories, plays and activities are to be developed to teach the children with hygiene measures and with appropriate motivation and facilitation helping them to adapt correct behaviours

- Entertainment and competitions on the subject are to be organised to enthuse the children and make them understand more and remember the messages long

- Practical guidance on building latrine and their maintenance through demonstration latrines Sample kitchen gardens, soak pits and compost pits can also be built to make people understand their functions and usage

- Arranging for exposure visits Both staff and community learn a lot and can get convinced more easily when they see for themselves similar successful works

All the above approaches can be tried depending upon the local situation and culture and this will make the community to think and discuss further seeking more clarifications.

Efforts Towards Dispelling Doubts It is very important in dispelling their doubts either through demonstration or by explaining in detail

- **Cost**

The various components of latrine like pit, basement and super structure and the materials involved in construction, are to be explained and make them selves to work out the cost involved Here one can discuss various options on reducing the cost by using locally available materials like - Coconut and Palm thatches, reeds, cement and gunny bags, bamboo mats, maize stalks for a simple and manageable super structure

The cost details for a simple sanitary latrine with various options on super structure may be explained as below

Cost of ceramic pan, P trap, stone ware pipe, cement slab and upto basement Rs 650

Super structure - local materials	Rs. 200 to Rs 300
Cement block or hollow block super structure	Rs 750 to Rs 1,000
Pit digging	Free labour by users
Pit lining	Rs 100

- **Odour :**

The functions of P Trap or water seal can be explained Demonstration can be held during the awareness programme By filling the P trap and holding a burning incense stick at one end, ask the onlookers to smell through the other end They experience that the water does not allow both smell and smoke to pass through it This simple exercise makes them understand that latrine will not emanate bad odour.

- **Dirty:**

It is necessary to explain in detail saying a well-maintained latrine can be as clean as out homes Faeces will not be exposed as in the cases of open defecation hence there is no chance for flies and mosquitoes, which will help us in not getting any illness In addition we can also explain the correct usage of latrine.

⇒ Before using pour some water in the pan to wet it which will help not the faeces sticking to the pan and will help in easy flushing

⇒ After defecating flush with nearly 2 litres of water until the basin is completely clean

⇒ The pan and the surrounding area must be cleaned with a broom or brush daily

⇒ One should not use any kind of Soap, acids to clean the basin and latrine.

⇒ To avoid wastes like dry leave, paper and other materials falling into the pan, it can be kept closed with a tin sheet, wooden plank or mud pot

⇒ When the P trap is blocked we should not use hard and sharp rods or sticks to clean it This will break the P trap, which will lead to leakage and bad odour

⇒ Waste cloth can be tied at the end of a stick, and with this the P trap can be softly prodded to clear the blockage

⇒ Forcefully flushing with water will also help clear the blockage

⇒ Any crack or damage in the flooring should also be immediately repaired

⇒ The surrounding area of the latrine should also be kept clean and dry

⇒ Wastewater should not be allowed to stagnate Construction of soak pits or promotion of kitchen gardens can prevent stagnation

- **Water Needs:**

⇒ Water scarcity is a genuine problem for the villages As it is they were using unsafe water and insufficient quantity, now added with the additional need of water for latrine usage and better hygiene behaviours, additional safe water sources become a real and immediate need

⇒ People need to be educated on water management and economic use of available water

⇒ The possibilities of restoring the existing sources to be considered and these should be brought to optimum usage

⇒ Need for additional sources are to be appraised, if possible these are to be included in the project with people or Governments financial support.

- **Latrine was less priority compared to a house:**

⇒ People's felt need for a good house is an acceptable one They are to be explained how a latrine is equally important People need to be explained so as to understand the functional needs of a house and latrine With their increased knowledge on the cost involving in constructing a latrine and its uses,

people invariably decide on investing in a latrine.

To conclude on the above it is necessary to remind again on the following,

1 Various diseases and their transmission route or cycle

2 Frequency of diseases occurring, the expenses involved in curing them and income loss because of their inability to work during the sick period

3 Mental tension and other related hardships that arise due to illness in the entire family

4 Prevention of diseases which is possible by adopting better behaviour - the ways and means through which such difficulties can be avoided

5. After the community members start thinking on the need for a better sanitary condition which will promote their health, may come out more casually in discussing further In such occasions, one can expect them in talking about the average spending on medical expenses in a year (Rs 1,000/- to Rs 1,500/-), venturing in the open for defecation poses other dangers like- snake bites, thorn pricks, road accidents etc

By all the above approach and repeated contact, people started considering the merits of latrine usage against the present situation Slowly people will get convinced, yet a few may come forward to build latrines, others would still observe the latrine being built and in use

Points to be remembered while constructing a latrine:

1. Selection of site - 30' -50' away from water sources depending on the soil type It must not be a shallow place as in rainy season it will be filled with water.

2. The place must not be very far from the house and should have sufficient place for the pit, and kitchen garden if necessary.

3 The selected place to be marked with lime powder and pit for foundation dug.

4 Foundation has to be laid upto 1' above the ground level Rough stones and mud, lime or cement mortar can be used for construction.

5. pit should be deep enough to avoid frequent or quick filling. Circular Pit has to be dug for depth of 8', 1 meter dia This size will last a lifetime for a family of five Lining of the pit is only to prevent caving in. In hard soil conditions, honeycomb lining for the top 1' with bricks or rough stones is sufficient. In other soils, lining will have to be done for the full depth (Upto this level the beneficiaries can contribute labour and use materials)

6 The pan and the P trap must be fixed in level using a spirit level

7 The footrests must be placed close to the basin so that it will be convenient both for children and elders To the length of the pan the footrests must be centrally placed

8 After fixing the stone ware pipe to the P trap, it must be seen that it is protruding into the pit at least for three inches

9 The pit must be closed with cement or stone slab

10 The basement must be slightly raised to prevent rain or waste water flowing into it

11 The pit can be raised to 3' above ground level (with proportionate raise to the pan and basement) and connected to bio gas plant This way the waste is treated immediately, and we get fuel and manure.

12 Once the pit is full (this will not happen in an 8' deep pit) another pit dug close to it and connected to the P trap The full pit must be allowed to compost before it can be opened and the contents used as manure Care must be taken that sufficient time is allowed for decomposing before opening the pit

13 As inside the pit the night soil is in contact with soil, all gases produced are absorbed by the soil and there is no need to provide ventilation pipe

Steps Involved In Successful Implementation Of The Programme

- Provide additional water sources When people are convinced to adapt good hygiene behaviours they must be appropriately supported with sufficient water availability.

- The poor who come forward to construct latrines are supported with finance and credit facilities Loan is managed by the community organisations

- Income generation through kitchen gardens and cottage trades like soap, broom making helps to the success of the programme The users turn to be advocates for promoting kitchen gardens and using soap. On many occasions' kitchen gardens has helped the people repay their latrine loans This has also relieved them from 61% of external loans.

Nature's calls, which were an ordeal, will now become easy. Latrine is close by, no more hardship of finding way in the dark Unnecessarily controlling nature calls will lead to many physical discomforts and diseases This will no longer be a problem. Women, School children will now find more time for their studies, household chores and vocations. Diseases being caused by exposed faeces will greatly be reduced. A latrine provides for much wanted privacy to women and it protects their chastity Relieves them of mental tension and keeps them relaxed and free It gives a prestige to the owner.

With ones concerted efforts and co-operation from the people, it is possible in moving ***towards a change*** for a ***Clean Village and HealthyPeople.***

NIT RATES FOR CONSTRUCTION MATERIALS & LABOURS

Sl.	Item	Rate (Rs.)/Unit
	Construction materials	
1	Earth work excavation	35 00 / cum
2	Bricks IInd class	1 00/ brick
3	Sand	140 00 / cum
4	Cement	152 00 / bag
5	Stone chips	123 00 / cum
6	Rough stone	85 00 / cum
7	Steel	15 50 / cum
8	Ceramic pan, P-trap & Foot rest	190 00 / set
9	Broken bricks/brick ballast	70 00 / cum
10	Welded mesh	48 00 / sq m
11	Chicken mess	40 00 / sq m
12	Binding wire	15 00 / Kg
13	Thatches	150 00 / toilet
14	Palmerah leaf	1 00 / each
15	Gunny bag	35 00 / sq m
16	Bamboo mat	6 00 / each
17	Hollow/Cement block (16"x8"x4")	150 00 / toilet
18	Reeds	100 00 / toilet
19	Red gram stem	200 00 / Door
20	MS / Zinc sheet door (5' x 2')	20 00 / each
21	Stoneware pipe	
-	**Labour wages**	
22	Skilled labour (mason)	100 00 / day
23	Unskilled labour (Men)	50 00 / day
24	Unskilled labour (Women)	30 00 / day

Earth work excavation for leachpit

Sl	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Earth work excavation	1 18	35 00 / cum	41 23
	TOTAL COST		41 23	

0 30 mts lining from top of leachpit using rough stone (cm 1 5)

Sl	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Earth work	0 23	35 00 / cum	8 05
2	Rough stone	0 23	85 00 / cum	19 55
3	Cement (in bags)	0 39	152 00 / bag	59 28
4	Sand	0 08	140 00 / cum	11 20
5	Skilled labour	0 24	100 00 / day	24 00
6	Unskilled labour (Men)	0 06	50 00 / day	2 80
7	Unskilled labour (Women)	0 40	30 00 / day	12 00
				136 88
8	Contingency		3 42	
				140 30
9	Water charges		7 02	
			Total Cost	147 32

3 0 30 mts lining from top of leachpit using Bricks (cm 1 5)

Sl	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Earth work	0 10	35 00 / cum	3 50
2	Bricks II class (in Nos)	50	1 00 / brick	50 00
3	Cement (in bags)	0 26	152 00 / bag	39 52
4	Sand	0 02	140 00 / cum	2 80
5	Skilled labour	0 14	100 00 / day	14 00
6	Unskilled labour (Men)	0 07	50 00 / day	3 50
7	Unskilled labour (Women)	0 22	50 00 / day	11 00
				124 32
8	Contingency		3 11	
				127 43
9	Water charges		6 37	
			Total Cost	133 80

* The dimensions are in meters

4 Complete lining with honeycomb brick works (cm 1 5)

Sl	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Bricks II class (in Nos)	225	1 00 / brick	225 00
2	Cement (in bags)	0 15	152 00 / bag	22 80
3	Sand	0 01	140 00 / cum	1 82
4	Skilled labour	0 75	100 00 / day	75 00
5	Unskilled labour	1 50	50 00 / day	75 00
				399 62
8	Contingency		9 99	
				409 61
9	Water charges		20 48	
			Total Cost	430 09

5 Complete lining with cement rings

Sl	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Cement rings (1mt dia & 0 30 mts height)	5 00	60 00 / each	300 00
2	Skilled labour	0 25	100 00 / day	25 00
3	Unskilled labour	0 50	50 00 / day	25 00
				350 00
8	Contingency		8 75	
				358 75
9	Water charges		17 94	
			Total Cost	376 69

6 Reinforced concrete pit cover (1:2 4)

Sl. #	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Cement (in bags)	0 28	152 00 / bag	42 41
2	Sand	0 02	140 00 / cum	2 66
3	Stone chips	0 04	123 00 / cum	4 80
4	Steel (in Kg)	5 17	15 50 / Kg	80 14
5	Skilled labour	0 02	100 00 / day	1 50
6	Unskilled labour (Men)	0 09	50 00 / day	4 30
7	Unskilled labour (Women)	0 13	30 00 / day	3 87
				139 67
8	Contingency		3 49	
				143 16
9	Water charges		7 16	
			Total Cost	150 32

7 Basement using rough stones, brick ballast with cm 1 5 including Ceramic pan, P-trap & foot rest

Sl. #	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Earth work excavation	0 49	35 00 / cum	17 15
2	Rough stones	0 81	85 00 / cum	68 85
3	Cement (in bags)	0 54	152 00 / bag	82 08
4	Sand	0 15	140 00 / cum	21 00
5	Gap filling	0 16	140 00 / cum	22 40
6	brick ballast and top	0 10	70 00 / 1 cu m	7 00
7	Pan, P-trap & foot rest	1 00	190 00 /1 set	190 00
8	Stoneware pipe (in No)	1 00	20 00 / each	20 00
9	Skilled labour	0 85	100 00 / day	85 00
10	Unskilled labour (Men)	0 13	50 00 / day	6 50
11	Unskilled labour (Women)	1 40	30 00 / day	42 00
				561 98
8	Contingency		14 05	
				576 03
9	Water charges		27 45	
			Total Cost	603 48

Basement using bricks, top finishing with brick ballast (cm 1 5)
(including ceramic pan, P-trap & foot rest stoneware pipe)

Sl. #	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Earth work excavation	0 29	35 00 / cum	10 15
2	Brick II class (in Nos)	240	1 00 / cum	240 00
3	Cement (in bags)	0 81	152 00 / bag	123 12
4	Sand	0 22	140 00 / cum	30 80
5	Gap filling	0 16	140 00 / cum	22 40
6	brick ballast and top	0 10	70 00 / 1 cu m	7 00
7	Pan, P-trap & foot rest	1 00	190 00 /1 set	190 00
8	Stoneware pipe (in No)	1 00	20 00 / each	20 00
9	Skilled labour	0 50	100 00 / day	50 00
10	Unskilled labour (Men)	0 08	50 00 / day	4 00
11	Unskilled labour (Women)	0 83	30 00 / day	24 90
				722 37
8	Contingency		18 06	
				740 43
9	Water charges		37 02	
			Total Cost	777.45

9 Superstructure using hollow blocks (0 40 x 0 20 x 0 10)
(including zinc sheet door of 1 50 x 0 60 mts size)

Sl. #	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Cement blocks (in Nos)	75	6 00 / each	450.00
2	Cement	0 42	152 00 / bag	63 84
3	Sand	0 12	140 00 / cum	16 80
4	Zinc sheet Door (1 50 x 0 60)	1	200 00 / each	200 00
5	Skilled labour	0 66	100 00 / day	66 00
6	Unskilled labour (Men)	0 10	50 00 / day	5 00
7	Unskilled labour (Women)	1 08	30 00 / day	32 40
				834 04
8	Contingency		20 85	
				854 89
9	Water charges		42 74	
			Total Cost	897 64

Sl. #	Item of work	Quantity (cu.m)	Rate per unit	Amount
1	Bricks II class (in Nos)	315	1 00 / each	315 00
2	Cement	1 06	152 00 / bag	161 12
3	Sand	0 29	140 00 / cum	40 60
4	Zinc sheet Door (1 50 x 0 60)	1	200 00 / each	200 00
5	Skilled labour	0 66	100 00 / day	66 00
6	Unskilled labour (Men)	0 11	50 00 / day	5 50
7	Unskilled labour (Women)	1 09	30 00 / day	32 70
				820 92
8	Contingency		20 52	
				841 44
9	Water charges		42 07	
			Total Cost	883 52

	1 Toilet with rough stone basemen and thatched superstructure						
	(Leachpit protection with rough stone for 0 30 mts. Depth from ground level)						
		(Toilet inner size = 1 0 m x 1 0 mts.)					
	Type of Superstructure	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**Wateraid**	**Total Cost**
1	Using thatches/reeds/ palmeth/gunny bags/red gram stems	Rough stone	Leachpit earth work	41 23	0 00	0 00	41 23
			Leachpit protection using rough stone (0 30 mts height)	60 62	0 00	86 70	147 32
			Leachpit cover slab	0 00	0 00	150 32	150 32
			Basement using rough stone, brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	205 35	0 00	398 13	603 48
			Thatches for super structure (including labour)	150 00		0 00	150 00
			TOTAL	**457 20**	**0 00**	**635 15**	**1092 35**
	Note 1 If we use mud mortar for the basement work, cost reduction will be around Rs 200/-						
	2 If we deduct the contingency allowance provided in the budget, another Rs 20 96 can be saved						
	2 Toilet with bricks basement and thatched superstructure						
	(Leachpit protection with rough stone for 0 30 mts. Depth from ground level)						
		(Toilet inner size = 1 0 m x 1 0 mts.)					
S l #	**Type of Superstructure**	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**WATER AID**	**Total Cost**
2	Using thatches/reeds/ palmeth/gunny bags/red gram stems	Brick II class	Leachpit earth work	41 23	0 00	0 00	41 23
			Leachpit protection using rough stone (0 30 mts height)	60 62	0 00	73 18	133 80
			Leachpit cover slab	0 00	0 00	150 32	150 32
			Basement using rough stone, brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	129 27	221 68	426 50	777 45
			Thatches for super structure (including labour)	150 00		0 00	150 00
			TOTAL	**381 12**	**221 68**	**650 00**	**1252 80**
	Note 1 If we use mud mortar for the basement work, cost reduction will be around Rs 200/-						
	2 If we deduct the contingency allowance provided in the budget, another Rs 24 66 can be saved						

	3 Toilet with rough stone basement and thatched superstructure						
	(Leachpit protection with honey comb bricks construction for full depth)						
		(Toilet inner size = 1 0 m x 1 0 mts)					
	Type of Superstructure	**Construction material used for Leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**Wateraid**	**Total Cost**
3	Using thatches/reeds/ palmerh/gunny bags/red gram stems	Full depth honey comb brick construction for leachpit and rough stone basement	Leachpit earth work	41 23	0 00	0 00	41 23
			1 50 mts Depth Honey comb brick construction for leachpit	95 48	233 06	101 55	430 09
			Leachpit cover slab	0 00	0 00	150 32	150 32
			Basement using rough stone brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	205 35	0 00	398 13	603 48
			Thatches for super structure (including labour)	150 00		0 00	150 00
			TOTAL	**192 06**	**233 06**	**650 00**	**1375 12**
	Note 1 if we use mud mortar for the basement work cost reduction will be around R 200						
	2 if we deduct the contingency allowance provided in the budget, another Rs 27 54 can be saved						
	4 Toilet with rough stone basement and thatched superstructure						
	(Leachpit protection with honey comb bricks construction for full depth)						
		(Toilet inner size = 1 0 m x 1 0 mts)					
Sl #	**Type of Superstructure**	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**WATERAID**	**Total Cost**
4	Using thatches/reeds/ palmerh/gunny bags/red gram stems	Full depth honey comb brick construction for leachpit and brick basement work	Leachpit earth work	41 23	0 00	0 00	41 23
			1 50 mts Depth Honey comb brick construction for leachpit	95 48	261 43	73 18	430 09
			Leachpit cover slab	0 00	0 00	150 32	150 32
			Basement using rough stone brick ballast with cm 1 5 (including ceramic pan P-trap foot rests and stoneware pipe)	129 27	221 68	426 50	777 45
			Thatches for super structure (including labour)	150 00		0 00	150 00
			TOTAL	**415 98**	**483 11**	**650 00**	**1549 09**
	Note 1 if we use mud mortar for the basement work, cost reduction will be around Rs 200/-						
	2 if we deduct the contingency allowance provided in the budget, another Rs 31 54 can be saved						

5 Toilet with rough stone basement and thatched superstructure						
(Leachpit protection with cement rings for full depth)						
	(Toilet inner size = 1 0 m x 1 0 mts)					
Type of Superstructure	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**WATERAID**	**Total Cost**
Using thatches/reeds/ palmerh/gunny bags/red gram stems	Providing cc rings (Full depth) for leachpit and rough stone basement	Leachpit earth work	41 23	0 00	0 00	41 23
		Providing 5 Nos of CC rings for leachpit	95 48	179 66	101 55	376 69
		Leachpit cover slab	0 00	0 00	150 32	150 32
		Basement using rough stone, brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	205 35	0 00	398 13	603 48
		Thatches for super structure (including labour)	150 00		0 00	150 00
		TOTAL	**492 06**	**179 66**	**650 00**	**1321 72**
Note 1 if we use mud mortar for the basement work cost reduction will be around Rs 200/-						
2 if we deduct the contingency allowance provided in the budget, another Rs 26 29 can be saved						
6 Toilet with rough stone basement and thatched superstructure						
(Leachpit protection with cement rings for full depth)						
	(Toilet inner size = 1 0 m x 1 0 mts)					
Type of Superstructure	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**WATERAID**	**Total Cost**
Using thatches/reeds/ palmerh/gunny bags/red gram stems	Providing cc rings for leachpit and brick basement work	Leachpit earth work	41 23	0 00	0 00	41 23
		Providing 5 Nos of CC rings for leachpit	95 48	208 03	73 18	376 69
		Leachpit cover slab	0 00	0 00	150 32	150 32
		Basement using rough stone, brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	129 27	221 68	426 50	777 45
		Thatches for super structure (including labour)	150 00		0 00	150 00
		TOTAL	**415 98**	**429 71**	**650 00**	**1495 69**
Note 1 if we use mud mortar for the basement work, cost reduction will be around Rs 200/-						
2 if we deduct the contingency allowance provided in the budget, another Rs 30 30 can be saved						

	6 A Toilet with rough stone basement and Bamboo superstructure						
	(Leachpit protection with rough stone for 0 30 mts from ground level)						
		(Toilet inner size = 1 0 m x 1 0 mts)					
	Type of Superstructure	Construction material used for leachpit and basement	Item of work	People contribution (materials & Labour)	People contribution (cash)	WATERAID	Total Cost
	Using bamboo mats	Rough stone	Leachpit earth work	41 23	0 00	0 00	41 23
			Leachpit protection using rough stone (0 30mts height)	60 62	0 00	86 70	147 32
			Leachpit cover slab	0 00	0 00	150 32	150 32
			Basement using rough stone brick ballast with cm 1 5 (including ceramic pan P trap foot rests and stoneware pipe)	205 35	0 00	398 13	603 48
			Bamboo mat superstructures	25 15	210 00	14 85	250 00
	-		*TOTAL*	**332 35**	**210 00**	**650 00**	**1192 35**
	Note 1 if we use mud mortar for the basement work cost reduction will be around Rs 200 -						
	2 if we deduct the contingency allowance provided in the budget another Rs 20 96 can be saved						
	7 Toilet with rough stone basement and Hallow/cement block superstructure						
	(Leachpit protection with rough stone for 0 30 mts depth from ground level)						
		(Toilet inner size = 1 0 m x 1 0 mts)					
	Type of Superstructure	Construction material used for leachpit and basement	Item of work	People contribution (materials & Labour)	People contribution (cash)	WATERAID	Total Cost
1	Using Hollow block	Rough stone	Leachpit earth work	41 23	0 00	0 00	41 23
			Leachpit protection using rough stone (0 30mts height)	60 62	0 00	86 70	147 32
			Leachpit cover slab	0 00	0 00	150 32	150 32
			Basement using rough stone, brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	205 35	0 00	398 13	603 48
			Hollow block superstructures including door	96 94	785 85	14 85	897 64
			TOTAL	**404 14**	**785 85**	**650 00**	**1839 99**
	Note 1 if we use mud mortar for the basement work, cost reduction will be around Rs 200/-						
	2 if we deduct the contingency allowance provided in the budget, another Rs 41 84 can be saved						

8 Toilet with bricks basement and bricks superstructure						
(Leachpit protection with rough stone for 0 30 mts. from ground level)						
	(Toilet inner size = 1 0 m x 1 0 mts)					
Type of Superstructure	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**WATERAID**	**Total Cost**
Using Bricks	Brick II class	Leachpit earth work	41 23	0 00	0 00	41 23
		Leachpit protection using rough stone (0 30mts height)	60 62	0 00	73 18	133 80
		Leachpit cover slab	0 00	0 00	150 32	150 32
		Basement using rough stone, brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	129 27	221 68	426 50	777 45
		Using II class bricks for superstructures (including door)	120 87	762 65	0 00	883 52
		TOTAL	**351 99**	**984.33**	**650 00**	**1986 32**
Note 1 if we use mud mortar for the basement work, cost reduction will be around Rs 200/-						
2 if we deduct the contingency allowance provided in the budget, another Rs 45 18 can be saved						
9 COST ESTIMATE FOR SUPER DELUXE MODEL (Toilet attached bathroom)						
Using Hollow blocks (0 40 x 0 20 x 0 10 size) superstructure						
(Leachpit protection with rough stone for 0 30 mts. from ground level)						
	(Toilet inner size = 2 0 m x 1 0 mts.)					
Type of Superstructure	**Construction material used for leachpit and basement**	**Item of work**	**People contribution (materials & Labour)**	**People contribution (cash)**	**WATERAID**	**Total Cost**
Using Hollow block	Rough stone	Leachpit earth work	41 23	0 00	0 00	41 23
		Leachpit protection using rough stone (0 30mts height)	60 62	0 00	86 70	147 32
		Leachpit cover slab	0 00	0 00	150 32	150 32
		Basement using rough stone brick ballast with cm 1 5 (including ceramic pan, P-trap, foot rests and stoneware pipe)	286 30	39 25	398 13	723 68
		Hollow block superstructure including door	138 08	1064 67	14 85	1217 60
		TOTAL	**526 23**	**1103 92**	**650 00**	**2280 15**
Note 1 if we use mud mortar for the basement work, cost reduction will be around Rs 300/-						
2 if we deduct the contingency allowance provided in the budget, another Rs 51 81 can be saved						

Role Of Vermiculture In Rural Sanitation

Patil C.R. And Radha D.Kale

Composting aided by different groups of micro-organisms acting on various kinds of complex wastes in succession is a simple method of recycling waste It is also called a very safe method of waste disposal The high temperature that builds up during decomposition kills all pathogenic forms of organisms thus making manure safe for handling This process takes slightly more time When earthworms are employed on semi-decomposed materials they help to obtain matured compost in about 6 weeks time reducing the total time taken for recycling almost by half Individuals can adopt these technologies Even when a community or a small population adopts them with suitable modifications they have given wonderful results

The Community Activity

The ecological models have shown that there is a gradual rise in the number from lower mammals to man in forming successful social groups of optimum size However the best results are achieved in community activities when its maximum number does not exceed 150 Therefore it is essential to keep the number of families that are clustered to enter into any of the social activities within this suggested number

Organic Waste Collection

In the rural set up, the organic degradable wastes generated will be from the domestic animals, the kitchen, granaries or other agricultural activities It is essential to motivate the householders, not to let any of these wastes to enter into drains or to roadside. This require the active participation of a group leader who can take up this responsibility and women group can perform better in such programmes

The organic waste that is segregated at the house level into degradable and non-degradable (plastics, glasses) has to be shifted to a site within close proximity involving all the householders This helps in saving on transportation, and labour It also ensures greater care and better management of composting

The type of constructions can be chosen based on need of the rural community Often trenches in low rainfall areas tanks made of cement and bricks or stone slabs wherever available can be made They not only prevent spillage of wastes all over the areas but also protect earthworms when compost making is by employing vermiculture The vermicompost recovered is around 50-55% of the total weight of the wastes used. Many times the total vermicompost obtained by farmers is much more than the quantities required for their own use. This calls for marketing of extra vermicompost The best way to achieve this could be to form a co-operative society of producers and sell it directly to end-users This would ensure distribution of returns to entire society and also fetches fair price for compost produced by the farmers.

Vermiculture

Rearing of earthworms to produce compost from the recyclable bio-waste is vermiculture It's importance lies in its suitability at present in waste management systems The species of earthworms screened and selected for their efficiency to convert organic waste into manure (Vermicompost) include

1 Eudrilus eugeniae

2 Eisenia fetida

3 Perionyx excavatus

4 Perionyx sansibaricus

Eisenia fetida has worldwide acceptance for organic waste management

Eudrilus eugeniae is a very recent entry into the scene and is a preferred species in tropical countries especially by the agriculturists

Perionyx excavatus, which has wide spread distribution in tropical countries of the south east, is used for composting in some places in Philippines and India It is not as efficient as the other two in the performance

Perionyx sansibaricus, which is a wide spread species in Kerala, is under experimentation to use as one of the possible for waste degradation The earthworms, which are burrower's and surface feeders, can only be used for waste degradation

Relevance of Vermiculture in Rural Sanitation

Vermiculture using above mentioned four species could be practised with almost any biodegradable waste. Following are some of the waste that could be conveniently used

Wastes from Agriculture

1) Farm waste and Agriculture waste, which include litter, weeds, stubbles, hay and straw
2) Animal dung being used along with other organic waste
3) Bio-gas sludge
4) Seed husk and seed waste from thrashing yard.
5) Defoliated leaves, twigs and ground cover from forests and avenue plantation.
6) Litter from cattle shed, weeds and hay

Wastes from Industries

1) Industrial organic waste and effluent
2) Silk worm pupae and silkworm waste from sericulture industry.
3) Coffee pulp waste for coffee processing unit
4) Distillery effluent and paper mill effluent
5) Non-edible oil cakes like neem and pongamia
6) Coir pith and coir dust from coir industry
7) Polyfibre mill effluent
8) Waste from oleoresin units

Municipal waste

1) Solid waste after primary screening
2) Sewage effluents

Most important care to be taken in handling and use of these wastes is to avoid concentrating only on one or two types of waste wherever wider choice of waste is available Use of all possible waste simultaneously to enhance earthworm activity is preferred. This will not only help to recycle all types of waste by one method but also avoids concentration of one type of organic waste that may be toxic to worms and hence provide continuous feed material for growth and development of earthworms Therefore it is very essential that earthworms which biologically pulverise organic waste are protected and maintained very active all the time Protection from predators such as lizard, rodents (rats) can easily be achieved by using a fine size mesh While maintaining a moisture level of near to 40% in culture beds, will keep the worm very active and this also protects them from predators like ants. In any case use of chemicals to eliminate pests has to be avoided, as they may be lethal to earthworms also

Steps in Vermiculture

"Vermiculture" or Vermitechnology is very simple It requires partially degraded organic material that has undergone decomposition for about two weeks with or without dung This step helps in achieving two things, namely· the build **up of** heat in decomposing material in the first 15 days only, as this should be avoided in later stages of Vermiculture Secondly, softening of material enables the worms to feed easily and uniformly on the material.

After the initial decomposition the material has to be mixed once to dissipate the heat and obtain a uniform feed material. Then this partially degraded material is filled into trenches

or tanks constructed out of cement and bricks or stone slabs or wooden planks and worms are released The number of worms required to convert one tone of organic waste material into vermicompost in about six weeks is five to ten thousands on species and nature of waste It is desirable to select the worm population based on the quantity of waste to be handled. The size of adult E eugeniae is 10 cm to 30 cm and individual weighs 1 5 to 2.0 gms Where as adult E fetida is 6 to 10 cm and weights 0 3 to 0 5 g

The castings of the worms form vermicompost The entire bed consisting of castings and worms can be collected and heaped in shade worms from their castings The tendency of the worms to go to the base when heaped in pyramid shape and left for 6 to 8 hours or overnight helps in separating them from vermicompost The separated material can be passed through sieves to obtain very fine vermicompost and separate material unfeed by worms (usually 10% of total waste) The sieved compost can be stored in shade even upto one year and used as and when required

The vermicompost so obtained has a wide range of use Besides its use as an excellent organic manure, it can be a substitute in pot mix for expensive expanded clays. It is also used as a substrate to harden tissue-cultured plants under both green house and field conditions

Application of Vermiculture.

"Vermiculture" is a very economically viable technology apart from being technically feasible It can be practised at any level, small and marginal farmers and agriculturist to recycle their agriculture waste and obtain high quality organic manure for their crop production This ensures replenishment of organic amendments to soil and also to reduce the costs incurred on chemical fertilisers. It is generally observed that like many organic amendments added to soil or crop growth, application of vermicompost also has resulted in better crop growth, greater resistance to pests and diseases and higher palatability of food grains produced using vermicompost When used at the rate of 10 tons per hectare along with application of recommended dose of NPK, to grow cut flowers maximum flower yield (6840 Kgs/ha) was obtained Similarly maximum vase life of China aster in this experiment was obtained when plants were amended with vermicompost at the rate of 15 toms/ha and half the recommended dose of NPK This has widened the scope of vermicompost not only as a low cost input but also as an input in hi-tech agriculture systems

"Vermiculture" can also be done at very large scale involving units, which can handle thousands of tons of garbage, and municipal solid waste to make it a business oriented activity This has immense scope as an environmentally safe way of handling solid waste, thus help in abating pollution It also has the potentiality to generate employment both in rural and urban areas Vermiculturing can be made more profitable venture if compost-making sites are built using locally available cheaper material and are located close to waste generating sites The manure so obtained can be sold at a price of Rs 3,500- 4,500 per ton, thus ensuring safe returns and also profits However the farmers who employ very low cost inputs produce at cheaper process and are selling at a price of Rs 2,000 to 3,000 per ton As and when extra population of earthworms is reached, worms are sold at Rs 250 to 300 for every thousand worms

This clearly suggests Vermiculture is an economically viable, technically feasible and sustainable technology and hence more relevant to improve sanitation by recycling waste employing Vermiculture

Vermicomposting In India: Need For A National Level Network

Padma Vasudevan & Seema Sharma

Ancient India knew the importance of earthworms possibly since Vedic times Not only were they seen as friends of the farmers but also as bioindicators[1]. However, deliberately stall-feeding and utilising earthworms for composting a variety of organic residues termed as vermicomposting[2, 3,4,5] are a relatively new phenomenon In the context of solid-waste management disposal of organic residues ranging from biomass generated in agriculture, agro industrial residues, domestic waste and excreta of various birds and animals, including faecal wastes are now being considered for vermicomposting Major advantages of this technology are -

(i) Acceleration of the composting process, reducing the residence time to 30-60 days, depending on the raw material and climate

(ii) The enhanced manurial value of the compost

(iii) Additional benefits in terms of soil aeration, water holding capacity and support to beneficial microflora

(iv) In areas where the worms themselves are valued as fish feed, poultry feed and as a protein source, Vermiculture (breeding of worms) is also popular

In the last three decades both vermiculturing and vermicomposting are being popularised rapidly by a number of voluntary agencies, agricultural and other Universities, government agencies and commercial units A critical mass has been built up for creating a nation wise network by linking all the organisations involved By this means total sanitation can be achieved nation-wide through the eco-friendly economically beneficial technology of vermicomposting. Under an UNICEF funded project on "Solid Waste Management" a status review on the national scenario was taken up by the authors

The information is being collected under the heads shown in the Performa enclosed (Appendix 2)

It may be noted that many government as well as international agencies are supporting R & D/Technology transfer and have information on organisations working in the area of vermicomposting (The important organisation are listed in appendix 3) Data bases, manuals, reviews and training materials are being released from time to time Some of these are listed in Appendix 4

At this juncture it would be desirable to pool all this information and generate a uniform code for a computerised database for easy access and dissemination The information collection should be an ongoing continuous effort For this a common format may be created and distributed through major government agencies and voluntary agencies interested. A national level nodal agency should take charge of continuous updating of the data base and easy accessibility to all The same agency can take on the responsibility for providing general information's regarding vermicomposting technology These information's can be about the experts/organisations/agencies involved in this technology in different regions of India, source of procuring earthworms for initiating this technology, nature of work of any organisation etc

This agency may also look into alternate composting processes, which are equally rapid

Simultaneously effort should be made to collect information on the international status, for which a suitable strategy may be devised

Acknowledgement

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Recycling Of Biomass In The Rural Sector By Vermicomposting

Padma Vasudevan, D.Vidya Sagar

& Satyawati Sharma

The biomass residue in the rural sector may be categorised into

1 Agro-residue and wastes from animal husbandry;

2 Biomass based rural industrial waste, and

3 Biomass from surroundings including weeds, loppings etc

In the last two decades vermicomposting of organic residues is being popularised by a number of voluntary organisations, government agencies and agricultural universities Earthworms improve aeration and water holding capacity These worms provide ideal pH (around 7) and moisture content (50%) for the beneficial soil bacteria Additionally the major advantage is in terms of micro nutrient content, beneficial microflora and bioexudents in the vermicompost The technology also helps in improving sanitation through disposal of a variety of residues which otherwise clutter in the environment and support disease vectors However, replicability, rapid propagation and sustainability of vermicomposting technology will depend on the economic viability of the system at field level. This inturn depends on

i) Type of agro-residue availability and the value of the raw material in the market for alternative uses

ii) Space, time and skill available with different category of farmers who have access to sufficient quantity of agro-residue for disposal

iii) Visible demonstration of the effect of vermicompost, application to the local crops for increasing productivity

iv) Market value of vermicompost as compared to other available organic manures

Thus to ensure sustainability of vermicomposting technology in the rural sector, a system based approach has to be taken up considering all the local specific factors as enumerated above Such a system based approach is being tried by I I T, Delhi under a project sponsored by Department of Biotechnology, Government of India, in two village clusters, namely Farrukhnagar which is a salt affected area in Gurgaon District and Dulhera which is a low and water logged area in Rohtak District of Haryana

The experiences gained in this regard so far are discussed under the following heads

i) Agro-residue availability and its potential alternative use

ii) Current practices of agro-residue utilisation including compost preparation and its use

iii) Technology of vermicomposting and its production cost

iv) Effect of vermicompost vis a vis other organic manures on productivity of local crops

v) Feasibility of integrating vermicomposting technology into cottage level agro-based industry for enhancing the returns.

vi) Sustainability of the vermicomposting technology.

Agro-residue availability and its potential alternative uses.

It is important to know the agro-residue availability and its current mode of use before establishing large-scale vermicomposting units. For this purpose, a sample survey was conducted in two village clusters of Haryana

In Farrukhnagar cluster, a saline area, besides wheat and mustard, flowers such as marigold, chrysanthemum and seasonal vegetables are being cultivated Some farmers cultivated daincha (Sesbania aculeta) for green manuring Dulhera cluster is a waterlogged area Besides wheat, cultivation of paddy is prevalent in this area Some farmers grow aromatic plants such as mint for extraction of essential oils The cropping pattern and agro-residues availability in two clusters is shown in **Table 1**

Besides agro-residue availability, sufficient cattle dung is available with the farmers but the composting of the same is not being done systematically Currently, paddy and wheat straw fetch Rs 50 and Rs 100/quintal respectively in nearby markets Wheat and paddy straw are being used as cattle feed The other agro-residues of mustard, marigold, mint are being used only as fuel Current practices of agro-residue utilisation including compost preparation and its use

The composting activity is not being taken scientifically In fact agro-residues are either sold or burnt They keep the cattle dung in heaps or in ditches under uncontrolled conditions for making compost This kind of process not only takes longer duration for composting but also results in the loss of nutrients which are essential for plant growth

Technology of vermicomposting and its production cost

Vermicomposting is an eco-friendly technology for converting organic waste into manure relatively fast Earthworms feed on the organic matters and convert it into castings, which are in plant nutrients Based on their feeding habit earthworms are classified into detritivorous and geophagous Bouche(1977) classified earthworms laying stress on ecological strategies into epigeics, anecics and endogeics Epigeics are surface dwellers. They are phytophagous and feed only on leaf litter These worms can not dig into the soil Anecics feed on the leaf litter mixed with the soil Endogecis worms live in the deep soil and these are geophagous.

There are about 3,000 species of earthworms distributed all over the world and about 500 species in India Epegeics and anecics worms play an important role in composting Where as, endogeic worms borrow inside the soil to enhance aeration, water holding capacity and helps in soil formation The choice of the worms may be made considering the rate of reproduction as well as compatibility with agro-climate. Some species can process agro-residues five times of their weight in a day Food preferences, growth rate and biology of earthworms have shown that only epigeic earthworms can be used for composting organic wastes (Radha, D, Kale, 1996). The most suitable worms for the northern India has been found to be are Eisenia foetida, Eudrillus eugeina and Perionyx exclavatus.

Khadi and Village Industries Commission has recently included vermicomposting technology in their list of cottage industries The techno-economics for processing of two-quintal agro-residues is shown below

Vermicomposting economics for processing of 2 quintal residues

Input

1 1m^3 brick bin
- Rs 1,500.00

2 Cost of 2000 worms @ 50 paise/worm
- Rs 1,000.00

Cost of production

3 Organic residue @ Rs 1/Kg
- Rs. 200.00

Output after first cycle

i) Quantity of vermicompost
- ~120.00

ii) Cost of 120 kg compost @ Rs 5/kg
- Rs 600 00

iii) No Of worms after first cycle
- ~6,000

iv) Cost of worms on sale @ 50 paise/worm
- Rs 3,000 00

Input cost
- Rs 200+150

(depreciation cost of Rs 1,500 @ 10%)

Output

- Rs 3600-350=3250

Profit including labour cost

Effect of vermicompost vis a vis other organic manures on productivity of local crops

Experiments were conducted on local crops specifically to see the impact of vermicompost on productivity Encouraging results were obtained in respect of tomato, brinjal, guava, papaya, tulsi and marigold An increase of 15-20% yield was registered in all the cases Marigold shows a significant increase in the number of flowers Quality of flowers was found to be better Both tomato and brinjal gave more fruits with vermicompost as compared to FYM

Feasibility of integrating vermicompost in cottage level agro-based industry for enhancing the returns

For better returns it is important to consider the waste utilisation aspect Waste after harvesting mushroom, sericulture litter, biogas slurry can be converted into vermicompost

(Padma Vasudevan & Mira Madan, 1989)

For example

Agro-residue could be used for cultivation of edible mushroom, which is a protein rich food After harvesting the mushroom, the waste was converted into vermicompost by the Windro method

At the farmers level the waste generated after growing dhingri (Pleurotus sajor-caju) in home/cottage based production units were vermicomposted

The economics for growing dhingri with one quintal of agro-residue (Wheat straw) is given below

100 kg of agro residue was pre treated as required for mushroom - Rs 600

cultivation, input cost including seed, chemicals, and polythene bags and miscellaneous per 100 kg

Mushroom yield from 100 kg wheat straw - 60Kg

Sale value @ Rs 40/kg - Rs.2400

Net return - Rs 1800

Spent residue left after mushroom cultivation ~ 80 kg (Fresh weight and as such would vary with moisture content)

Compost obtained after vermicomposting = ~ 50 kg

By integrating vermicomposting technology with mushroom cultivation enhances the income which nearly 25% of the income generated through mushroom cultivation

Note The economics depends on the nature of agro-residue and mushroom species For example Mr.Ashok Kumar (Snow View Farm, Narela, Delhi) has commercialised production of button mushroom, vermicomposting the residue and sale of the compost Vasudevan and Sharma worked on vermicomposting of sericulture wastes and propagated the technology in rural Haryana

Sustainability of the vermicomposting technology:

Current market value and agro-residue availability per acre is shown in Table 1 Current returns are a maximum of Rs.100/qu. While residue like mustard and marigold straw have no market value and serves as fuel in local areas At an average availability of 10 quintal straw/acre, the direct sale value is Rs 1000/- this roughly 10% of the return on the main produce i e , the grain If the farmer can produce at least 5 quintals of vermicompost and sell at the rate of Rs.5/- kg, the returns can be enhanced to Rs 2500/-, which is 25% of the return on the grain Alternatively, the farmer can use the compost on his farm to raise the productivity by 10-20% again gaining about Rs 200/- directly and interms of savings on chemical fertiliser But for all this the farmer has also to put in additional labour

The economics becomes better if the worms have value as fish feed, chicken feed or when vermicomposting is practised after mushroom cultivation The value addition with production of mushroom is high and there is sufficient residue for vermicomposting

Need less to say market linkage and market fluctuations are important factors and appropriate measures are needed to buffer against these Once all these aspects are carefully worked out, integrating vermicomposting with various agro-residue based productions can be sustained.

Acknowledgement

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Table 1

The cropping pattern and agro-residue availability

Rabi crop (Nov – April)

Name of Crop	Grain Production (quin /acre)	Return from grains (Rs /quin)	Straw Production (quin /acre)	Return from straw (Rs /quin)
Wheat	16-18	500	15	100
Mustard	8-10	1,000	8-10	Nil
Channa	6-8	1,400	6-8	100

Kharif crop (June – Oct)

Paddy	20-30	400-500	20	60
Bajra	8-10	350	15	50
Jwar	4-5	400	16	100
Gwar	6-7	1,300	6-7	75
Marigold	-	15,000-30,000	Fuel	-
Groundnut	6-7	1,200	16	25

Low Cost Sanitation In Water Logged And High Water Table Areas

Paul Calvert

Abstract

Key Words Compost Toilets Sanitation for Waterlogged Areas High Water Table Evaporative Plant Beds Water Conservation Environment.

Whilst Kerala boasts cent per cent literacy and the lowest IMR in India few Keralites would believe, or admit, the unsanitary conditions in fishing villages along their coast Men defecate on the shoreline and women and girls on a number of designated pieces of land around the village These plots are very congested and over used It is barely possible to walk in these plots without contacting the raw faeces.

Neither water flush pit latrines nor septic tanks are suitable in such crowded villages with high water table Thus, with no suitable technology available many villages and communities in this condition have been badly neglected with regard to sanitation and related education This pilot project to design and establish compost toilets by the author and his team in Kerala shows a significant way forward

Low Cost Sanitation In Water Logged And High Water Table Areas

Introduction

Whilst Kerala boasts cent per cent literacy and the lowest IMR in India few Keralites would believe, or admit, the unsanitary conditions in fishing villages along their coast Men defecate on the shoreline and women and girls on a number of designated pieces of land around the village These plots are very congested and over used It is barely possible to walk in these plots without contacting the raw faeces Most of the users are barefoot and in homes much of the food preparation and eating is done on the floor Typically, over 80% of households have no latrine facilities, and at least 50% of households have to fetch their water from communal wells Open defecation, poor hygiene and the proximity of communal wells to private soakaways or pit latrines

Results in most well being highly contaminated with coliform bacteria It is hardly surprising that intestinal worms and diarrhoea are endemic or that outbreaks of cholera and dysentery occur each year

Neither water flush pit latrines nor septic tanks are suitable in such crowded villages with high water table Thus, with no suitable technology available many villages and communities in this condition have been badly neglected with regard to sanitation and related education This pilot project by the author and his team in Kerala shows a significant way forward

Background

The development of the compost toilet with evaporative plant bed was born out of the author's experience with a community latrine which had been built in response to the local Mahila Samajam women's desire to have a more private and dignified place to defecate. When first drawn in to investigate problems with that latrine in its first three months of operation he learnt it was facing severe problems. The soak pits were leaching badly into the well from which flushing and anal cleansing water was drawn The author and a young architect from Cochin closed the soak pits and built a lagooning system to treat the effluent Although far from perfect this system has been operating for over four years and is managed by the Mahila Samajam who collect a user fee at the latrine gate to cover cleaning, maintenance and staff costs

However, although the community latrine is considered a great improvement by the users and fulfils their original desire of a private place to defecate all of the women really wanted to have a latrine at home But since pit latrines are inappropriate in the village with wells and

dwellings all so close together and the water and table so high there seemed to be no solution

The Mahila Samajam women had learnt enough about the issue now to make an informed request What they wanted was a latrine that would not only give them privacy but also would not smell or encourage flies and that would not contaminate the ground water

None of the women had any confidence that a safe piped water supply would ever be a reality given the increasing burden on water supplies from the city and tourism-fishing communities always seemed to be the losers. Besides, they would surely still have to use their wells for bathing and washing After workshops and awareness classes their response was emphatic "No, we can't see our village ever having a continuous and safe piped water supply We have to look after our own water supplies and that means taking care of our wells" That meant among other things a sanitation technology that didn't contribute to pollution of the wells

Clearly such luxuries as waterborne piped sewerage were out of the question Even a basic system is expensive but here the pipework would be in the ground water and the low lying flat and would necessitate pumping stations too The lagooning system serving the community latrine was too complex and unsuitable for scaling down to a family sized unit

The author proposed the use of compost toilets This would significantly reduce water usage (by up to 1,00,000 litres per family a year) The main advantage, however, was that not only do you save all this water but also you do not pollute it (with urine and faeces) And, therefore, you do not have to go to great lengths to clean it again or find a way to dispose of it (and create a nuisance for someone else somewhere else)

The compost toilet could be built to keep the faeces and urine out of the water table and off the ground away from feet, flies, dogs and crows. There would even be a useful product, compost, for adding to the soil around coconut trees, plantain or other shrubs, plants or trees There was widespread scepticism except for few stalwarts! But perseverance won Through in the end.

This paper shares the experience and success of developing a compost toilet with evaporative plant bed in Kerala but argues that it has application through India and the sub-continent

The Compost Toilet

As designed and intended this compost toilet is a highly effective solution to sanitation in high water table and waterlogged areas However it has application in many other areas too being a reliable and low cost water conserving technology It can be built as part of a house in urban and peri-urban areas, even inside a house or apartment It has the potential to make a significant contribution to domestic water conservation in towns and cities as well as rural areas In today's scenario of annual and perennial water crises in many Indian cities this is undoubtedly a desirable feature Also since it is has no need to connect to sewerage places no burden on already overloaded services

It is suitable for use by family or can be built in clusters for institutions, schools, hostels and so on However open access uncontrolled community latrines are inadvisable until the technology is much more widely known

The compost toilet developed by the author simply comprises a raised slab over two vaults The vaults are built on the ground not in it In very waterlogged areas or those prone to flooding a slightly raised plinth can be given The vaults are plastered to waterproof them and make for tidier compost removal Over each vault there is a hole in the slab for faeces and a funnel to receive the urine In the centre of the slab between the two vaults is a trough over which anal cleansing is performed The anal cleansing water trough and urine funnel(s) are interconnected and flow to an evaporative plant bed outside the latrine Each vault is primed with a bed of straw prior to each six to nine month cycle of use The user simply has to sprinkles a spoonful of ashes down the faeces hole after each use and then close it with the cover provided. In the simplest version bricks with mud mortar close the vault doors However ferro-cement, timber, marine ply may also be used as appropriate to local conditions.

The first vault of the compost toilet is opened after one year or more of operation A toilet used by a family of six has a cycle of between one year and one and a half years before removing the first compost There is no fly nuisance or any odour problem and the toilets remain clean and pleasant to use The plant bed needs almost no maintenance, all that is required is to cut back excessive growth This can be chopped up and added to the compost pit if required

The author has spent much of the last ten years at work with fishing community-based organisations in Kerala He was convinced that this technology had a place here and, amidst much opposition (he and his team faced threats and abuse) set about the task of developing a compost toilet suitable for the conditions, culture and habits prevailing in Kerala The result is a technology, which meets the needs and desires of communities living in high water table areas That is to be freed from the debasing squalor of open defecation. Now they can be

Costs

The author's first compost toilet was built in April 1995 and it has been operating continuously since then without any problems. The author has refined the design and simplified the construction so that the compost toilet can be built for, typically, between Rs 3500 and 4500 depending on the superstructure and roof required Now there are over 100 compost latrines operational in the project area and interest in it from many other quarters

The essential substructure encompassing the "technology" as such can be built for around Rs 2300 for one off In an organised team building larger numbers in the substructure can be built for about Rs 2000

As for the superstructure that depends to a large extent on user norms and expectations and ability to contribute financially A brick and cement mortar superstructure will vary between 1000 and 2300 depending on numbers and extravagance in roofing and door

Scepticism

Everyone the author has spoken to, without exception, insists that the toilet must surely smell However much I assure them that these toilets do not smell they do not believe until they come and see them in operation. Then they are always, without exception, surprised and impressed The other criticism made is that it can never be acceptable to have to move to wash after defecation. But people who have not used it only make this point For those that to it simply is not an issue. Sceptics also fear that the urine and faeces cannot be let go together with the layout of this toilet, but that is not the case Again the sure cure for all Sceptics is to come and see a toilet and talk to the family who own it.

The Compost

The compost is an almost dry, crumbly, black product having a light, peasant, earthy odour The best way to describe the smell is that it is like a walk in the forest, a peasant, woody, earthy scent

The opening of the vault of my first toilet was the acid test for the compost toilet Even the slightest imagination of a smell or something unsightly would have ended the compost toilet experiment instantaneously and resulted in the lynching of team and designer The PCO managing committee secretary and civil engineer were looking on in awe as we opened the back wall of the vault For each brick we removed they retreated another pace quite convinced we were opening the gates of hell itself

Mahila Samajam members, all PCO staff, various villagers and youth and panchayat members came, under considerable duress and with considerable trepidation, to see this product of the compost toilet Many of them were suspicious that it was a scam and either the toilet had not been used or we had faked the compost Certainly people at large were not won over yet! But for the team and a few others seeing (and not smelling) was believing

Logic

The author's experience in building and operating a lagooning system for treatment of

community latrine effluent had taught him first hand the foolishness of putting our urine and faeces into water and then trying to clean the water Sewage treatment requires plenty of oxygen otherwise the bacteria which do the best job of feeding on the organic matter cannot survive Oxygen does not dissolve easily into water so water is last place we should put our waste. A compost toilet by contrast has ample air in the composting chamber and the bacteria can get to work with ease The development of water borne sewage systems were an expensive and retrograde step we will increasingly regret in the overall view of global sanitation, water and the environment

Attractions of Compost Toilet Technology

The Compost toilet has many attractions and savings provided that.

- Adequate awareness and training is given to the users in the early stages of establishing the technology
- The technology is correctly designed and built

Shortcomings in either of these two areas will lead to a poor uptake or even rejection of the technology In this pilot project the author has paid strict attention to these criteria and this is reflected in the results achieved

Amongst the attractions are that cities and peri-urban area no longer need to extend their sewerage network or enlarge or construct new sewage treatment plant The recurring cost of maintenance of additional infrastructure is also avoided. These two points together represent a huge financial saving in urban areas Cross contamination between sewers and water mains is eradicated in areas where compost toilets are well established as the standard sanitation technology Soils are steadily improved by the regular addition of good quality compost Conventional sewage treatment invariably leaves a dangerous sludge that still needs further treatment or ecologically unsound disposal.

In rural waterlogged areas the benefits are clear Previously there was no satisfactory sanitation system operating Prevention of ground and surface water contamination and the protection of people's health in an area where open defecation or defecation directly into water bodies is almost certainly the norm currently. The production of a safe compost and effective use of the urine and wash water are also a significant benefit

The technology also lends itself extremely well to areas with hard rocky soils where excavation for pits is difficult and expensive or even impossible Again the compost is valuable and can help to provide a better chance of establishing plant cover on thin and fragile soils

Compost toilets have generally only been regarded as appropriate in countries where anal cleansing is performed with paper or other organic matter Consequently they are rarely even considered in countries where the practice is to use water Much development work on compost toilets has therefore centred on Africa and Southern and Central America There is also quite widespread interest in Europe and Scandinavia where environmentalists are increasingly being outnumbered by those who are moving to compost toilets for economic reasons – to reduce the cost of their water bills

Lack of Awareness

At the beginning of the project there was considerable lack of awareness about the linkages between health, hygiene, sanitation and water People did not know that virtually all the wells in the village were seriously contaminated (with faecal coliforms) Nor did they have any knowledge of the routes of this contamination or that this was a major source of sickness Neither people in the village nor in the local NGO knew anything of the faecal-oral route or its implications The first hygiene awareness class and camp was met with a mixture of awe and mistrust

Most people though that bad smells make you sick, hence the clearing of throats and spitting on encountering one

Open defecation was considered distasteful by the women due to lack of privacy not because of the health risk The relevance of

and washing before eating or preparing food or after defecation was little practised or understood.

The author explored habits and attitudes and team through a hygiene survey in which observation was maximised and questions were minimised This was obviously an important approach since questioning often leads to a most unrealistic picture of people's behaviour There is no substitute for quite observation It needs to be done most sensitively and takes much longer but the results are highly meaningful

Hygiene Survey

The survey was conducted in the project village early in the project A number of observations were made and some significant questions asked Some key ones are recorded here

- Attitude to Children's Faeces.

  There were two points for observation and one question The question was, "Is small children's faeces harmful to our health?" The observations were· "Are the adults hands washed after handling the child's faeces or after cleaning the child's bottom?" and "How are the child's faeces disposed off?"

  At least two out of three people in the village thought that children's faeces are not harmful to our health However 67% were observed to wash after handling children's faeces

  With regard to the disposal of children's faeces, almost 90% of respondents threw it out on the open ground, the beach or in open drains Only 10% in the village placed it in a latrine or buried it

- Source of Drinking Water

  In the project village only 41% of respondents usually take their drinking water from a standpipe 31% usually obtain it from public bathing wells The remainder takes it from other family's wells (23%) or own well (4%) All the wells are open, generally with poor slabs around them with equally poor drainage

  In response to the question "Do you ever take your drinking water from a public well?" the result was that 55% did

- Children's hand washing habits were also observed

  It was found that although about half of the children did wash their hands before meals and after defecation but pre meals it was generally only one hand and without soap Those that did wash after defecation washed both hands with soap.

Awareness Raising

The technology alone is not an answer Certainly in the early stages of the development and wider acceptance of this technology there is need for training and awareness raising The author guided the PCO in developing an effective Hygiene Awareness Team (HAT) to unravel and dispel the misunderstandings and confusion that surrounds sanitation, health, hygiene, water and the environment. This team performs street dramas explaining the many faecal oral routes that result in cholera, typhoid, dysentery, diarrhoea, jaundice, worms etc They distribute leaflets about the compost toilet and hygiene practices at these performances and then in the subsequent days follow up with numerous house visits in the same area In the house visits they share feedback on the drama, discuss the practicalities surrounding these issues, clear doubts and answer questions

The Advantages of the Compost Toilet

- No need to dig pits
- No need for sewers and treatment plants
- No need for external infrastructure
- Safe and affordable for anywhere, but especially high water table and / or water scarce areas
- Does not pollute the ground water or soil
- Does not produce flies or smell
- Uses less water than any other toilet (The only water required is that for anal cleansing) A water flush latrine for a family can waste and

pollute 70 – 100,000 litres of water per year. The compost toilet saves all this water.

- Totally self-contained sewage treatment on site No sewage pipes, no septic tanks, no dangerous emptying
- No mosquitoes Unlike septic tanks and pit latrines where covers are often left poorly maintained leaving access for mosquitoes to breed There is nowhere for mosquitoes to breed in this system
- Produces useful and non-odorous compost.
- The evaporative plant bed can support attractive flowers, vegetables or plantain

Local Uptake

The project was held a series of workshops in Kerala at Panchayati Raj and local government level This is already evoking interest in a number of places Not least with the Mayor of Trivandrum who has agreed to fund at least 50 such toilets in the corporation area The process of raising awareness in the Grama Sabha not only of the technology but also the process for accessing funds for sanitation work through Panchayati Raj is being diligently undertaken by the PCO.

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Technological Options & Sanitation Upgradation

Ishwarbhai Patel

Man has controlled many factors However, man's mastery over environment is not complete As old problems are solved new problems arise Man tries to achieve 'Total Sanitation'

Sanitation is the way of life It is the quality of living that is expressed in clean home, the clean farm, the clean business, the clean neighbourhood and the clean community

Thus, the following are the components of sanitation Thus sanitation has many connotations, it includes (1) water supply (2) garbage removal (3) disposal of solid and liquid waste (4) disposal of wastewater (5) disposal of human excreta (6) home sanitation & hygiene & (7) personal hygiene

Environment in our Scriptures

In India's Puranic times also he the people were extra careful about defecation 'Parashar Smruti', suggests that people should defecate away from the habitat.

In order to avoid pollution of land, contamination of water, infection to animals and human beings defecation was banned in the ploughed land, water, on hillocks, in stagnant water wherein animals live, on the banks of river and in witness of cow, which we find in a verse from Manusmruti.

Latrine Design – Gandhi's view

In India since ages a particular community is engaged in cleaning latrines and hence they were stamped as 'untouchables' by society Gandhiji did never believe in this social custom and in order to get rid 'Bhangi Samaj' (Scavengers Community) from this inhuman practice he suggested certain designs of latrines which permit recycling of night soil also

Gandhiji has given thoughtful consideration to two different types of situation, one is where there is ample water and another one is where there is scarcity of water. In both the cases he advises to cover night soil with earth so that after a sufficient interval the night soil gets converted into manure

He advocated the following things.

Everyone should clean his environment surroundings and latrine by himself This he suggested in order to free the 'Bhangi Community' from inhuman practice of human excreta disposal

The work done for disposal of human excreta, garbage and dead animals and according to him, is 'Yagna' as this work keeps us healthy

Technological Options for Excreta Disposal

Several selected design options for the excreta disposal systems are discussed in this article covering the use and maintenance, skill requirement, availability of construction material, suitability for various geohydrological condition and possible upgradation These designs are either being used in India or have potential for adoption Other on-site sanitation systems although being used elsewhere successfully have been, however, excluded from this article due to their non suitability under the context in broader sense

Indiscriminate Vs Discriminate Defecation

While indiscriminate defecation is the root cause of major public health nuisance, sometimes suggestion is made to adopt discriminate defecation as an alternative method in line with upgradation approach It stipulates defecation at a place away from the community, in rubbish and manure heaps, in the bush and similar remote places Open defecation, however, encourages fly breeding that helps spread excreta related diseases In moist ground, the larvae of intestinal worms develop and there are chances of

faeces and larvae to be carried by human, animal and rodent Surface runoff from places where the people have defecated, results in surface water pollution In view of the suspected health hazards and the degradation of the environment, open defecation is generally and strongly discouraged as this contradicts the whole idea of safe disposal by which excreta should be confined in such a way that the cycle of re-infection from excreta-related diseases could be broken

Pit Latrine

A pit latrine essentially has a pit for accumulation and decomposition of excreta from which liquid infiltrates into the surrounding soil Based on the construction type, the pit latrines can be classified into three major categories

Shallow Pit Latrine

Under this option, a small hole is dug using a trowel (khurpi) After each defecation the excreta is covered with soil. This is sometimes known as the "cat" method Bigger pits of about 300 mm deep may also be constructed which will last for several weeks Excavated soil is heaped beside the pit from which some of it is put over the faeces after defecation Large bacterial population in the topsoil helps decomposition in the shallow pits Once the pit is filled up another pit may be dug in the vicinity thus providing continuity for excreta disposal without any substantial investment Nevertheless, flies breed in numbers and hookworm larvae can spread around the holes.

Simple Pit Latrine

The simple pit latrine is one of the oldest type of latrine It has a squatting slab placed over a pit Circular pits have more stability than the square or rectangular ones Diameter of such pit should be more than 700 mm which will facilitate workability for excavation but should not be more than 1000mm in which case the risk of side collapsing and the cost of platform increase substantially The depth may be limited to 1m to safeguard against ground water pollution The earthen mound will facilitate raising the platform level and hence protect the runoff from going inside the pit A simple squatting platform with a squatting hole may be made using local materials like bamboo, wooden logs etc A squat-hole cover made of locally available material could be used for covering the pit content after each use of the latrine

Latrine with Line Pit

In places where the soil is very loose, a pit latrine is constructed with a lined pit Twigs, split bamboo matting, an old drum, brick work, stone masonry and similar construction may be adopted for pit lining All other components should remain the same as in the case of simple pit latrine (unlined pit)

The superstructure of a pit latrine should be as simple as possible because of required frequent shifting of the latrine from one place to another (when the pit is filled up) By and large, technically a pit latrine can be constructed all over India except in high water table (within 2m form surface)/ water logged conditions and in hard rock formation (where digging of a pit needs special attention) Otherwise, this is highly labour intensive and can be constructed virtually with no cash expenditure To start with, especially during the habit formation stage, adoption of a pit latrine is a wonderful option possessing a high degree of upgradation over time

Waste Recycling

This type of excreta disposal system comes one step above the pit latrine in the vertical scale of sanitation upgradation Many design options come under this category through in view of the scope of CRSP, discussions have been limited to the following two types

Bucket latrine

A bucket latrine (also called service latrine) has a bucket or any other container for the retention of excreta (and sometimes, separate containers for urine collection and for storage of anal cleaning material). Excreta thus collected is periodically removed by scavengers for treatment or use in the agricultural field The scavengers are supposed to collect excreta during late night (thus excreta got the name night soil, historically) when there is less vehicular and human traffic Theoretically, by adopting appropriate precautions the high health risk of a bucket latrine can be overcome, though in practice it is hardly done Moreover, in India eradication of scavenging is one of the Government's high priority social upliftment programmes and hence discarded for adoption under Rural Sanitation Programme

Composting Latrine

In a composting latrine, excreta is converted into a reasonably safe compost for use

in the agricultural field Excreta in this type of latrine is collected in a watertight tank to which ask or vegetable matter is added Under controlled moisture content, the mixture decomposes to form a good soil conditioner in about four month's time. Pathogens are killed in the dry alkaline compost, which is safe for application in the agricultural field. Compost latrine could be of two types (i) Continuous composting and (ii) Batch composting While in the former type, only one chamber is constructed, in the latter type, two chambers are constructed next to each other which are for alternate use A gas vent is provided to reduce the smell in the squatting chamber The composting latrine is suitable for the community, which does not use water for anal cleaning Some superstructure with roof is required to prevent rainwater coming into the composting chamber If urine is not collected separately and vegetable matter and ash is not added regularly, the compost latrine may start malfunctioning Besides, maintaining specified time interval between compost emptying is often very difficult and, therefore, possesses a tremendous health risk

Ventilated Improved Pit (VIP) Latrine

A ventilated improved pit (VIP) latrine or ventilated pit is an improvement over a lined pit latrine A pipe is providing in a VIP latrine extending above the latrine roof, with a fly-proof netting across the top The difference of air pressure between the squatting hole and the vent top maintains a continuous airflow and hence the odour nuisance is reduced The inside of the superstructure is kept dark which discourages the entrance of flies Moreover, the fly netting at the vent top keeps the flies (if there are any) arrested within the pit and thus reduce to fly nuisance. If two pits are constructed for alternate use, a VIP latrine can be used for a fairly long time for safe excreta disposal and ranks much higher in the vertical upgrading ladder.

The VIP latrine is suitable for water scarce area where people do not use water for anal cleaning purpose and ground water table is more than 2m below the pit bottom. The use of water for anal cleaning will create pooling and hence a mosquito nuisance. In India, the VIP latrine has good potential especially in the arid regions where water supplies is scarce and people use soft materials for anal cleaning instead of water.

Water Seal Latrine

It is characterised by the water seal in its squatting bowl or pan Some water always remains at the bottom of the pan after it has been used Water seal serves as a barrier between excreta and outside environment and thus prevents bad odour coming from and the insects reaching the excreta The conventional water seal latrine is constructed by connecting a cistern to a commode or Asian Pan (bottom slope $15^{\circ} - 20^{\circ}$ and an S-trap with 50mm water seal) About 12-20 litres of water is required to flush these latrines Availability of so much of water just for flushing is often not possible, especially in the rural areas of developing countries

As an improvement to this, the pour flush water seal latrine has been developed A pour flush latrine has a steeper pan with the bottom slope 25°-30°, a 'p'trap with a water seal of 20-30mm As a result of these improvements pouring small quantity (2-3 litres) of water flushes out the excreta in the pan Thus, the name Pour

Flush Waterseal Latrine.

In accordance with Sanitation Upgradation approach a pour flush water seal latrine may be any of the following three types·

a) Direct pit water seal latrine

b) Water seal latrine with single offset pit

c) Two pit water seal latrine

Direct Pit Water Seal Latrine

This unit consists of a squatting slab monolithically cast with a steep cement pan The pan of a direct pit latrine has an in-built water seal The slab can be of either a circular or a rectangular shape The reinforced cement concrete (RCC) and the ferro-cement (FC) constructions are common for slab construction A pit is dug in the ground and the squatting slab is placed over it Normally no pit lining is required in the case of hard and compact soil However, in the case of loose soil, the pit is to be lined in order to prevent side collapsing The size of the pit should be such that it takes two years to get filled up. A temporary superstructure is built for privacy and protection.

After defecation, 2-3 litres of water is poured to flush the excreta out of the pan The excreta accumulate in the pit where decomposition takes place. The gas formed during decomposition escapes through the joints/openings of the pit lining and is absorbed by surrounding soil The

effluent is leached out and absorbed by the soil while the solid part (sludge) accumulates in the pit Thus, on prolonged use a pit gets filled up. When this happens, a second pit is covered with a think layer of soil and allowed to stabilise for about two years During this time the contents of the filled pit will have become organic humus and safe for handling. When the second pit also gets filled up, after two years or so, the first pit is cleaned, the squatting slab and superstructure shifted back over it and thus a continuous operation of a direct pit latrine is achieved. Since the superstructure has to be shifted repeatedly, only a temporary construction is recommended for this type of latrine

Two Pit Water Seal Latrine

The two pit water seal latrine is a complete excreta disposal system which on one hand fulfils all the sanitary requirements and on the other than, provides continuous operation with minimal effort The main components of a two-pit latrine are the water seal pan/trap arrangement, squatting platform, junction chamber, two pits and the superstructure The squatting platform is a raised pucca floor, constructed with appropriate foundation The pan of the two-pit latrine has a steep bottom slope, which allows easy flushing of excreta The outlet of the pan is connected with a P-trap On flushing, some water always remains in the P-trap and forms a 'water seal' The water seal prevents the bad odour coming from and the insects reaching the excreta The outlet of P-trap is connected with a junction chamber either by using a pipe or by constructing a covered brick drain The junction chamber has one inlet (connected to the P-trap) and two outlets (connected to the leach pits) which are for alternate use A temporary or permanent superstructure is constructed for privacy and protection

For making a two-pit latrine operational, one of the outlets of the Y-junction in the junction chamber is blocked while the other outlet is kept open to the corresponding pit After defecation, 2-3 litres of water is poured to flush the excreta out of the pan The excreta accumulate in the first pit, where decomposition takes place The gas formed during decomposition escapes through the joints/openings of the pit lining and is absorbed by the surrounding soil The effluent is leached out and absorbed by the soil while the solid part (sludge) accumulates in the pit The dimensions of the pit should be such that it takes at least two years to be filled up Once this happens, the flow of excreta has to be diverted to the standby second pit. For doing this, one has to remove the cover of the junction chamber, open the outlet connected to the second pit, block the outlet connected to the first and filled up pit and replace the junction chamber cover The contents of the filled pit will become organic humus and safe for manual cleaning in about two years When the second pit also fills up, in the next two years, the first pit is cleaned manually and same operation is repeated to divert the flow of excreta from the second pit to the first pit as was followed initially Thus the two-pit pour flush water seal latrine provides a continuous operation

HRD

In this section, Dr S Ponnuraj highlights the importance of HRD in making the rural sanitation programme a success and identifies the role of HRD in creating a better demand for promoting rural sanitation programme in the country

Human Resource Development
In Water Supply And Sanitation Programme In India.

Dr.S.Ponnuraj

INTRODUCTION

India, the largest democracy in the world with the population of about 970 million is committed to provide safe and adequate quantities of drinking water and proper sanitation facilities to her people In spite of commendable achievements in terms of coverage of village with safe drinking water during the last fifty years, the water supply systems in rural areas suffered due to poor operation and maintenance of the assets created Poor utilisation of the system is mainly attributed to the non-participation of the users which is considered as one of the important factors that can sustain and manage the assets created profitably in rural areas

It is also noted that the focus of the water and sanitation sectors over the past two decades changed from the high cost technology to low cost community managed systems and from a purely technical approach to a more comprehensive socio-technical approach In sharp contrast to the drinking water supply, historically there has been less priority given to sanitation programme primarily due to the shortage of funds, lack of political will and due to the absence of positive hygiene behaviour of the users

Rapid urbanisation and population growth have made our villages and urban areas to look like shanty areas for want of skilled man power to mange and sustain the facilities created so far The change of philosohopy of top down approach (planning process) to bottom up approach has also changed the role of programme implementers from provider to facilitator in drinking water supply and sanitation programmes in rural areas Planners also feel that local institutions like Panchayats can effectively be involved in sustaining and promoting drinking water supply and sanitation facilities in rural areas The provision of rural water supply, sanitation and change in approach have resulted in creating demand for human resource for operation and maintenance at local level to ensure sustainability of the programme.

Hence, there is need to educate the programme providers to take the responsibility of imparting required knowledge and skills to Panchayat Raj Institutions(PRI) and community to play their role as managers of the system effectively. It is also equally noted that morbidity and mortality due to diarrhoea among children below five years in several states have not shown any downward trend inspite of several schemes and programmes The nutritional status of the children also remained same All these results have shown us that there is urgent need to converge and synergise various development activities to improve quality of life of our rural community Understanding this and as a part of capacity building exercise, the Rajiv Gandhi National Drinking Water Mission (RGNDWM) has planned for a massive human Resource Development effort which would train and harness the human resources available in the WATSAN (Water and sanitation) sector during IX plan period to promote water supply and sanitation programme in rural areas.

2. Human Resource Development Centre-Gandhigram

Human Resource Development (HRD) centre at Gandhigram was started in the year 1994 as on e of the seven Key Institutions under Rajiv Gandhi National Drinking Water Mission The centre was chosen to impart training in health aspect of sanitary latrines, low cost sanitation, rural water supply, health , education and community participation to WATSAN sector

3. Areas of Operation

Southern five states (Kerala, Karnataka, Tamilnadu Andhra Pradesh and Goa) including union territories of Pondicherry, Andaman and Nicobar and Lakshwadeep come under the Gandhigram training centre So far the centre has trained 611 personals from Tamilnadu, Andhra Pradesh, Karnataka and Kerala.

4. Training Programme

Three kinds of training programme were taken up in the first phase at this centre The details are

given in table 1 Totally more than 600 personals were trained at this centre

Table 1 Types of training and participants

Training Programme	94-95	95-96	96-97	97-98	Total
Trainer's Training (TOT)	-	-	60	74	134
Professionals	33	110	60	240	443
Community polytechnic	-	-	22	-	22
Engineering faculty	-	12	-	-	12
Total	**33**	**122**	**142**	**314**	**611**

4.1Training Of Trainers(TOT)

The Gandhigram centre took up trainers training (TOT) programme in 1997 with the financial assistance of Rs 7.35 lakhs from Rajiv Gandhi National Drinking Water Mission (RGNDWM), Ministry of Rural Areas and Employment, Government of India The participants were drawn from district level officers of Tamilnadu, Kerala, Karnataka and Andhra Pradesh to form district training team in their respective states with the objectives as illustrated below

4.1.1 Objectives of the Programme(TOT)

The overall objective of the programme is to develop skilled manpower at district and below to sustain and promote rural water supply and sanitation programme in rural areas. The specific objectives would include

1 To perform duties of a trainer at district and block level in water supply and sanitation programmes
2. To provide inservice training for programme implementers including Panchayat Raj Institutions at various level to improve efficiency in the programme implementation
3 To explain health aspects of drinking water and sanitation
4. To conduct and organise Information, Education and Communication (IEC) activities.

4.2Objectives of the Professional Training Programme

The overall objective of the professional training programme aimed at·

1 Professional must able to select and apply low cost water supply and sanitation technologies in rural areas.
2. To apply software in water and sanitation programmes
3. To organise community/involve community in sustaining the facilities
4. To know the health aspects of water supply and sanitation and integrate hygienic education in watsan programmes

1. Profile of the Participants(TOT)

The centre had conducted 8 training programmes (TOT) for Tamilnadu, Kerala, and Karnataka The participants are mainly drawn from districts and HRD cells of the states The participants wee deputed from Department of Health, Education, Social Welfare and Tamilnadu Water Drainage Board and Kerala Water Authority. The participant's profile are given in tables 2 and 3

Table 3. Participants by States

Year	Participants' States						Total
	Tamilnadu		Kerala		Karnataka		
	M	F	M	F	M	F	
1997	79	8	40	3	4	-	**134**

Table 4. Participant by Age and Sectors

Age	Sectors											
	TWAD/ KWA		Health		Educan		Social Welfare		NGO		Total
	M	F	M	F	M	F	M	F	M	F	
<30	4	-	-	-	-	-	-	-	3	-	7
31-40	23	1	2	-	4	-	1	-	3	-	34
41-50	43	4	3	-	9	-	1	4	3	-	67
50+	7	-	11	-	4	-	2	1	1	-	26
Total	**77**	**5**	**16**	**-**	**17**	**-**	**4**	**5**	**10**	**-**	**134**

Table 5.
Educational Back Ground of the Participants

	Educational Qualifications	Participants
1	Engineering Graduates	63
2	Engineering Diploma	17
3	Medical Graduates	4
4	Graduates(others)	29
5	Diplomas (others)	21
	Total	**134**

Table 6. Participants and their experience in WATSAN Sector (n=134)

Experience	TWAD/ KWA	Health	Edu	Social	NGO	Total
Water Supply	74	-	-	-	3	77
Sanitation	-	13	-	-	-	13
Hygiene Education	3	-	-	-	-	3
Community Participation	-	-	7	9	7	23
None	9	-	9	-	-	18

6.Profile of the Professionals
Table 7. Participants by States

State	1994	95-96	96-97	97-98	Total
Andhra	12	50	28	-	90
Tamilnadu	20	60	32	240	352
Karnataka	-	-	23	-	23
Eng Faculty	-	12	-	-	12
Total	32	122	83	240	477

8. Educational Background of the Professionals

States	BE /B Tech	ME /M Tech	DCE	Total
Tamilnadu	295	40	29	364
Andhra	51	28	11	90
Karnataka	17	6	-	23

9. Participants and their experience in Watsan Sector

Area	Year Of Experience				Total
	<2	2-5	5-10	10 +	
RuralWater Supply*	36	90	104	78	308
Low Cost Sanitation	15	3	2	2	22
Community Organisation	-	-	-	-	-
Others	13	12	52	68	145

- includes health education, communication and sanitation upgrading

2. Methodology of the Training

The Principles of adult learning are profusely used in the training programmes Participatory learning methods and field observations and practices were given priority in the training programme

Learning materials were distributed to the participants Hands on training on soak pits, low cost sanitation, smokeless chulah, community participation and hands on training practices are organised for effective learning. In total, 50% of the training hours are allotted for practical sessions in real life situations

3. Evaluation

The evaluation of the course was done to assess the knowledge and skill acquired by the participants The course evaluation was conducted by administering a questionnaire, observation and the feed back was utilised for improving the subsequent programme. The evaluations of the training programmes are given in table 10.

Table.9 Pre and post evaluation of the training programme.

Aspects/Subject	Pre Evaluation %	Post Evaluation %
Water Supply	59	88
Sanitation	36	86
Health aspects	71	87
Community Particip	36	77
Training and Commu	32	70

4. Lessons learned at Gandhigram

The HRD centre of Gandhigram learned many lessons from her training programme. The centre, so far, had trained 134 trainers(District level trainers) in trainer's programme and 486 professionals It is observed from the training programmes (see tables) and during our rapid training need assessment of the professionals working in drinking water boards that professionals working in the drinking water boards had very little experience of working in low cost sanitation technologies, little or no knowledge

about health aspects of water and sanitation and training of personnel's in their sector

The findings such as lack of experience and knowledge about the relationship between health and water supply and sanitation supports the view expressed by Rajiv Gandhi National Drinking Water Mission that HRD activities must focus· a Long term HRD Programme for the community general and b A short term HRD Programme for the implementing agencies and local self-governments

Hence, it becomes necessary and essential to strengthen and improve the capacity of the implementing agencies/institutions particularly local self-governments in human resource development to meet the growing demand, to sustain and manage the assets created so far and assets to be created in future.

It is also observed that any vertical programme or unipurpose programme managed and operated by unipurpose professionals may not give desired results unless it is integrated or converged or implemented by an agency like Zilla Parishad Therefore, the HRD programme in Water and Sanitation must cover all those actions required to develop qualified and motivated manpower at all levels and HRD must identify and address suitable audience in the sector to meet the 21st century challenges. The audience would include.

@Public Health Engineering Department/State Drinking Water Boards
@ Department of Rural Development
@ Department of Health
@ Department of Women and Child Welfare
@ District Rural Development Agency
@ Panchayat Raj Institutions
@ Voluntary Organisations(local)
@ Local Artisans
(masons, plumber, pump operators)
@ School Teachers
@ ICDS staff

It is very difficult to quantify number of personnel's to be included for each state as water and sanitation programmes are implemented by different agencies in different states Therefore it should be left to the Zill Parishad/Panchayat Raj Institutions. It is the responsibility of the State HRD cells to identify the key/satellite institutions to select and train the tam for every district The district training team may be made responsible for training need assessment, imparting training and for continuing HRD programme at the district and below. The field practice demonstration area may also be established in every district with the help of community poly techniques and such centres can be better utilised for district training programme.

9.Conclusion

The policy of Ministry of Rural Areas and Employment (Rajiv Gandhi National Drinking Water Mission) in establishing HRD cells, key and satellite institutions have started yielding good results in the promotion of rural sanitation programme. There is no doubt that promotion of human Resource Development at Local Self Government level would certainly create a better demand in the promotion of drinking water and sanitation programme in the coming years.

Alternative Delivery Systems

This section has three papers dealing with Alternative Delivery Systems that could be employed in making rural sanitation programme a success. In his paper, Dilip Fouzdar highlights the importance of RSM as an alternative delivery mechanism by promoting rural sanitation by using the Prime Minister's Rozgar Yojana for setting up of RSM's. C P Kumbhat emphasises upon the initiative of RSM's through NGO's and Co-operatives and Deb Kumar Chakrabarti explains the role of RSM's in making Midnapore experiment a success.

Establishment Of Rural Sanitary Marts Using PMRY[1]
-An Analysis Of The Strategy And Its Prospects.

Dilip Fouzdar

1 INTRODUCTION

During the earlier part of the present decade a concern grew among the implementers of drinking water supply & sanitation programmes in India that achievements during the 'Decade'[2] on the sanitation front were way below the targets. Studies revealed that the national sanitation coverage of 11% was mostly due to private initiative, which accounted for 8% while the Government sponsored schemes contributed to a meagre 3%

Sanitation attained a higher prominence in the following years. 8th & 9th 5 year plan documents attached a higher priority to rural & urban sanitation with higher budget allocation Subsidy based schemes were initiated to create facilities among the households below poverty level (bpl) which was successfully implemented in various areas

The subsidy based schemes were however not accessible by a majority of the population who are not counted as bpl They also did not prove to create impacts on the society at large. Programme delivery was more targeted to toilet construction and the sanitation did not emerge as the obvious end product. The demonstration effects of the subsidy schemes were not visible These were attributed to, among other things.

(a) Facilities, know-how etc. were not available at the levels where demand could have appeared People mostly assumed that the improved sanitation facility e, g, toilet construction etc. are out of their reach

(b) Households who is not officially bpl. Though poor, had other priorities e, food & shelter, even among bpl families, not all had the will or resources to join the scheme

(c) Household of higher socio-economic groups too had priorities other than sanitation e, g, children's education, nutrition, and entertainment, apart from cultural pulls that enabled them to remain where they were.

The situation above called for a pro-active role on part of the implementing organisations. It entailed developing suitable strategies to reach people with convincing ideas enabling them to act themeselves in the process of development. More coverage through private initiative (investment) was regarded to be a logical course to attain household sanitation goals

2 Alternative Delivery Systems

A strategy of promoting/creating 'Alternative delivery System' evolved envisaging creation of infrastructures at the grass-root's level providing access to households to 'buy' facilities. One of the products of this strategy, namely, the Rural Sanitary Mart became quite popular all over the country

Rural Sanitary Mart(RSM)

Rural Sanitary Mart was envisaged being a one-shop located within the easy reach of the community aspiring to create facilities such as toilets, soakpit or drainage outlets for keeping clean within the household. UNICEF experience in Allahabad(UP), Midnapur(West Bengal) and later in Trichy (Tamilnadu) reveal that most ideally RSM can grow under the umbrella of a voluntary agency (NGO) as a delivery unity that stocks all relevant ingredients for maintaining sanitation with home which includes detergents & cleaning tools, toilet construction materials, mesons and knowhow It is a commercial unit (a shop), at the same time it is an agency for advocacy on sanitation and a facilitator at the local level.

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1 Prime Minister's Rojgar (employment) Yojana (scheme)

2 UN International Drinking Water Supply & Sanitation Decade 1981-1990

One can buy a soap or a broomstick, get information as to what it implies to construct a toilet at home in terms of investment and returns, acquire knowledge about the links between sanitation & health at the same time strike a deal to get the toilet constructed at home on a turn-key basis It is a pre-requisite for an RSM to have a panel of mesons listed who would eventually be trained under the scheme and deputed to carry out jobs as and when they emerge

Facilitator's Role

The role of the RSM as facilitator is crystallising slowly as a product of the process itself In the district Alleppy, Kerala, a progressive rural household could construct a toilet for Rs 7,000 in 1996 The entailed the household having to purchase all building materials from the nearest market place and transporting them to his village and

Hiring a meson from outside at a higher price The same components were sold at Rs 3,200 in 1997 after the establishment of a RSM nearby. Even a poorer household can construct a cheaper toilet with the help of RSM that offers a toilet ranging from a squatting plate to a customised bath-latrine complex This is not possible in the government sponsored schemes offering generally only one type of option – a pour-flush twin-pit toilet

With a higher degree of involvement for the RSM in a given area, a `Production Centre' can also be established as a support for producing/fabricating various components. The `Production Centre' can help further price reduction by producing pan & traps, squatting plate's etc A production centre run by SEVAI, a voluntary organisation near Trichy (TN) produces prefabricated toilet walls helping reducing price of a pour-flush twin-pit toilet to Rs.1900 as against Rs 2700 for universal designs accepted under CRSP[5] schemes

RSM can also be a facilitator for mobilising loans for the household to further the process of sanitation coverage. This has begun under a number of RSMs where Nationalised Bank's or NABARD programmes are linked Sprout of small scale `credit & thrift' around RSMs may start to grow as it is the case with MARYADA (a voluntary agency) in Talewadi area of district Erode (earlier to be known as district Periyar) – Tamil Nadu

3 Other RSM Models

With rapid prioritisation of rural & urban sanitation through government supported programmes & community level motivation, the growth of RSMs using NGO networks were viewed to have limitations Among other things, the process could bot be scaled up – constitutions, reputation & capability of the NGOs being so diverse. It was hence given a thought if the creation of RSMs could be tried differently. A number of options came into view. In Gujarat State, the National Dairy Development Board in 1995 agreed to involve its network of District Cooperative Milk Producer's Union in the process of scaling up the RSM experiment

PMRY Supported RSMs – The Process

PMRY is promoted by the State Department of Industries in MP, aiming at providing means of employment to unemployed youth through providing bank loans & relevant support The district administrative network implements the scheme The Block officials play a major supportive role in implementing the programme

The district collector, Sager(MP) initiated linking RSM concept with the PMRY in 1996 A massive campaign was launched motivating 21 young men to participate in a unique sanitation campaign in the district. On 2 October 1996, 12 of them actually secured loan from nationalised banks and started a RSM each, 6 followed later

The message went across the state faster and a number of district collectors were motivated to support RSMs linking sanitation & PMRY.

Table 1 presents a view of the process of replication of RSMs in MP over a 4 year period

The account presented above is possible not exhaustive, Rajiv Gandhi Sanitation Mission in

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5 Central Rural Sanitation Programme

Madhya Pradesh accounts for 60 established RSMs in Madhya Pradesh

4 Process Evaluation

Strategy Analysis

Strengths

Linking RSM with PMRY has possible the greatest advantage that RSM becomes institutionalised within an ongoing government supported scheme

It also recognises sanitation as a commodity for sale With growing urbanisation, semi urban areas are growing where demand for sanitation too is growing rapidly. Sanitation also has a market in the peri-urban areas, slums and in market towns(ganj towns) With the PMRY links, Nationalised banks may come forward supporting entrepreneurs trading in sanitation

If applied judiciously, the process has the potential to go to scale Table 1 depicts as to how within a short span of 1 year 44 RSMs were established in MP As against these, there were only 6 RSMs established through NGO initiatives in 3 years There is a scope to upgrade the process of institutionalisation further, which may remove a majority of the shortcomings presently visible in the process

Contradictions

Analysis made in Table 2 takes into account some of the basic departures in terms of objective, scope, accountability & quality control under the two situations To certain extent it explains as to how the RSMs under PMRY may not work the way the RSMs promoted elsewhere through NGOs by UNICEF did

Conceptually, these basic deviations from the RSM strategy, that was developed through wide ranging interaction & practices, can also be reviewed from a different point of view with a changed set of expectations under another realistic situation From the Table 2, serious adjustment problems in the marriage between the two ideas are evident Yet, the objectives of PMRY can fulfil at least some of the objectives of RSM The concept of RSM works unambiguously under a larger framework. Despite this one may accept PMRY, notwithstanding limitations, for the simple reaso. that is can possible perform the 'shop' function of a RSM efficiently if the background is favourable.

Similarly on accountability, it is apparent that loan refund process under the nationalised banks shall take its own course though the end product of the RSM may bot necessarily is sanitation It seems inevitable that a good number of entrepreneurs are to change their course of the business This may both be read as a threat if one sticks to the objective of the PMRY and counts on sanitation as the by-product.

On the question of quality control, however, it can be said that the entrepreneurs of the PMRY must get a fair deal. If the RSMs created through PMRY get the opportunity to train their staff & masons and if the Block Development Officers who monitor the marts on a regular basis, are briefed & oriented about the scope & purpose of the programme, the situation is expected to improve

Table – 1

Growth of RSMs in Madhya Pradesh

Year District	1994	1995	1996	1997
Sehore	1(DWACRA[6])			
Hoshangabad	1(DWACRA)			
Shivpuri		1 (NGO)		1(PMRY)
Jabalpur			2 (NGO)	4(PMRY)
Sagar			12 (PMRY)	6(PMRY)
Balaghat			3 (NGO)	3(PMRY)
Narsingpur			1(NGO) 3 (PMRY)	12(PMRY)
Bhopal				1(PMRY)
Betul				2(PMRY)
Katni				1(PMRY)

Development of Women & Children in Rural Areas – under this programme rural women folk were organised in group activities in a variety of income generating activities

Table 2

Basic departures from the RSM concept under PMRY

Supported Schemes

	UNICEF supported RSMs	**RSMs supported through PMRY**
Objectives	To be established for supporting rural households improving there home sanitation facilities through own fund & initiatives	To be established for providing employment to unemployed rural youth
Scope	i Only institutions(e g, registered NGOs, Cooperative societies, trusts etc) can be supported – not individuals ii Based on a one time grant on capital investment, covers the risk of gestation period till a demand is created RSM play here the role of a motivator enabling people/community attaining improved home sanitation iii NGOs can take a service motive-participate in the process of education & demand creation iv Focus on sanitation is not likely to be diluted	i Only individuals can be supported – not institutions ii Loan based-it overlooks the fact that the RSM has to play the role of an agent for change and necessary risks are involved If creating a sanitation market is the mandate in a given situation, the RSM may not sustain iii Profit motive must prevail so as to sustain It is pre-conditions that the market already exists iv Focus on sanitation may be diluted since the basic concern here is to run the enterprises
Accountability	Agency promoting RSM is accountable for the accomplishment of its objectives Registered societies/Trusts too are subject to audit & accounting obligations	Since the objective of the scheme is income generation the RSM enterprise may turn into an ordinary grocer's chop or a contractor Loan recovery would be a normal bank function
Quality Control	Basic objective being service this is likely to be a priority issue	Basic objective being income & profit, this part may be ignored

Process Analysis

UNICEF took a review in 1997 of the 12 RSMs established in the district Sagar which were by then 9 months old The process of linking PMRY and RSM has been analysed here on the basis on this review

Review Results

The results of the review have been analysed here under with a view to project problems & prospects of promoting RSMs through PMRY

1. The RSM in question are not very much in tune with the spirit of the RSM concept None of the RSMs had the know-how of toilet construction & none of them had trained mesons None of the RSMs are involved in IEC activities either These lacunae are attributed more to the process of institutionalisation rather than the system failure or weakness of the strategy

ii Location wise, 3 of the RSMs are in distinctly rural locations, whereas 9 of them have the urbanised background, reflecting the fact that

people/consumers of the vicinity were expected to bear a positive attitude towards construction of household latrines 2 of the RSMs are situated in disadvantageous locations, which however could not be attributed to have any reflection over their performance

iii. Out of the 12 RSMS 4 were commercially viable, notwithstanding support they obtained from the BDOs who apart from pushing the PMRY are also promoting household toilet construction with government subsidy and the RSMs are conveniently given to play the role of material suppliers/contractors Out of the 3 rural RSMs 1 has proved to be a commercial success – this owner seems particularly dynamic, he maintains a rickshaw cart to deliver services at the doorstep of the user

iv Out of the 8 non-profit making RSMs, 3 can already be written off, 2 have depleted their resources by way of giving credits, 3 are working hard to make it work Out of the 4 profit making RSMs, 1 show signs that it may not sustain as an RSM

v It does not seem feasible in a typical rural situation with predominantly middle/lower middle class population to promote RSM through a PMRY type of approach It may not also work in the thinly populated or forest covered areas where privacy (and hence demand for sanitation facilities) may not be the issue

5 *Conclusions*

Prospects

If one accepts the fact that PMRY scheme shall perform only the 'shop' function of an RSM, the scaling up process can still be maintained for the semi urbanised areas & peri-urban, slum areas.

Support

Linking PMRY & RSM was a new approach The district administration had the advantage of using its developmental network of Block Development Officers, which has played a pivotal role in upholding the concept.

UNICEF support has been confined to involving the entrepreneurs in the RSM managers training This had some limited impacts Under the changed situation the training itself is required to be remodelled

Implementation Gaps

In the process of scaling some of the vital components of the RSM were ignored No support was provided to the PMRY schemes in

i Maintaining a meson's list for each of the RSMs

ii Providing/facilitation Meson's training

iii Training/orienting BDO's and other relevant government functionaries aiming at inducting them into the new process

iv Providing a proper IEC support and training of the entrepreneurs on IEC issues that are integral part of RSM functions which include creating a proper knowledge base on technical aspects of toilet/drainage/disposal design & construction

v Maintaining a strong advocacy support which obviously can boost up sales if information about RSMs s disseminated through community level social mobilisation activities, printed media and other developmental interactions

Monitoring,Review,Evaluation

Considering the scale of the process, monitoring carried out by the BDOs were a part of the implementation The concern was to make the idea work

Besides this, the process was not monitored professionally, UNICEF review, as referred here, covered only 12 of the 44 RSMs established so far.

Production Centres

In the scaling up process, establishment of Production Centres should also find a place State Industries Department, parent body of the PMRY scheme, may give a through to it

Credit & Thrift

2 of the RSMs, established under PMRY in the district Sagar, namely, Anil Gramin Sanitary Mart & Jain Sanitary Mart have used up their capital by supplying toilet construction materials on loan and are hopeful of recovery This indicates that there are creditworthy consumers though, for want of an institutional financier the RSMs in question are in the verge of insolvency

Threats

Though one year cycle of October 1996 to October 1997 saw a rapid growth of the RSMs supported by the PMRY funds, the process seem to have halted thereafter In absence of proper monitoring, this cannot be explained realistically Assumable, it tends to suggest that scaling up process of RSM, taking advantage of PMRY must be given a second though One may also notice from Table 1 that UNICEF too has not supported RSMs through NGOs in 1997

It remains unresolved if the process would sustain It is not enough that the bank loans are repaid regularly which is mostly achieved by the district administration through keeping the interest of the entrepreneurs alive by linking the RSMs with the subsidy schemes This approach jeopardises the concern that private initiatives shall get a boost and perhaps, this takes away young entrepreneurs own initiatives, which is depicted rather clearly in the UNICEF review

These are some of the cross cutting issues that are required to be integrated into the scaling-up process demanding active consideration for the implementers

References

1	National Dairy Development Board & UNICEF	Establishment of Rural Sanitary Marts in Surat District	1995	Prepared by Surat District Co-operative Milk Producers Union Limited
2	Rajiv Gandhi Mission on Sanitation- Govt of MP	Project Outline – Rural Sanitation A people's Programme in Madhya Pradesh		
3	UNICEF – Bhopal	Rural Sanitary Marts-the Sagar Experiment	Sept 1997	Prepared by Mr C P Kumbhat, UNICEF-Lucknow

Status of RSMs in district Sagar after a year of their Establishment. **Annexture**

RSM Title	Location[1]	Loan[2]	Functionality[3]	Book Keeping[4]	Mesons[5]	Tech knowhow[6]	IEC[7]	Comments
Raksha RSM	U A	0 8	O P	N	N	P	N	Credit a/c maintained Run as a family business, Stock Rs 90 thousand, Turnover Rs 9 lakhs
Vikas Gramin SM	R A	0 7	O P	N	N	P	N	Maintains a hand pulled rickshaw to deliver materials at the user's doorstep Stock Rs 150 thousand, Turnover Rs 6 lakhs
Tiwari SM	S A	0 9	O P	Na	Na	Na	Na	Gets support of local govt. Officials Takes up turnkey jobs under govt schemes
Patel SM	S D	0 7	O I	S	N	P	N	Invested own money & worried Thinks RSM idea has been thrush upon him Inclined to opt for a product mix Stock Rs 60 thousand (decreasing trend), Turnover poor
Sen SM	S D	0 95	O L	N	N	P	N	Works hard & good potential Stock Rs 90 thousand, Turnover Rs 1 lakhs
Arihant SM	S D	0 95	O P	Na	Na	Na	Na	Maintains stock Average sale from Rs 500-700 Loan repayment regular 2 RSMs of Kesli are situated 1 Km apart.
Rajiv SM	S A	0 75	O L	N	N	P	N	Mart owner is not interested RSM continues to exist due to support provided by the local govt officials Stock Rs 30 thousand, Turnover Rs 65,000
RSM	S A	Na	N L	Na	Na	Na	Na	Mart owner is not interested Engaged in transport business The RSM is not managed
Deepak SM	R A	0 90	O L	S	N	P	N	Entered PMRY 2 year earlier to run a tent house Did not succeed Loan amount of 0 54 lakh enhanced to 0 90 lakh to change over to an RSM Picking up Stock Rs 30 thousand, Turnover Rs 1 2 lakh
Jain SM	R A	0 90	O L	S	N	P	N	Turn over poor, decreasing trend of the stock The owner has sold large quantities of material on loan and is confident of recovery
Anil Gramin SM	S A	0 81	O L	N	N	P	N	Sold some materials on credit. Confident of recovering Stock Rs 30 thousand, trend decreasing, Turnover Rs 0 7 lakh

1 *Location Urban, Semi-urban Rural Advantageous, Disadvantageous*

2 *In lakh(1 00 000) Rupees*

3 *Operational, Non operational Making Profits running at a Loss*

4 *Account & Stock registers Well maintained/Not maintained/Some documentation*

4 *Mesons list not maintained/mesons Not trained/Trained*

5 *RSM manager is technically Knowledgeable/RSM has poor technical know-how about toilet design & Construction*

7 *RSM carries out Adequate/Some/No IEC activities as its function of upgrading sanitation*

The Rural Sanitary Marts Initiative

C.P.Kumbhat

Sanitation Coverage

According to National Sample Survey (NSS) conducted in 1989, only around 11% of the rural households had their own toilets as compared to 3% reported by Government figures which reflected those covered by the government's subsidised programme People constructing toilets on their own accounted for the difference of 8% These were people who did not qualify for the Government's subsidy scheme or those who wanted to construct toilets independently, without waiting for Government's subsidy, or even those who had already constructed toilets on their own before the Government's subsidy programme was launched The subsequent 1991 Census figures also revealed a similar trend and the experience gathered from ISP in Medinipur further indicated that there are always people willing to construct toilets provided they are given the necessary know-how and sanitation materials are available at the local level, at cheap and affordable rates

In terms of the finances required to subsidise toilets, it was noted that at the rate of around $50 subsidy per household per toilet, the country would need to spend more that $5 Billion towards subsidy, which was hardly possible.

These conclusions pointed to the need for establishing a system which took care of those motivated households unable to construct toilets due to non-availability of relevant adequate information on different toilet designs and of sanitary materials and resulted in the establishment of the first Rural Sanitary Mart in Allahabad District in the State of Uttar Pradesh in 1993

The Rural Sanitary Marts (RSM), along with other arrangements which facilitate acceleration of sanitation coverage outside the government programme, including production centres for manufacturing pans and traps for toilets and other sanitary items, credit mechanisms which are established to provide assistance to the needy, all supported by a strong IEC back-up, are together now popularly know as the Alternate Delivery System

The Rural Sanitary Mart Initiative In Uttar Pradesh

Located in the North of the country, the State of Uttar Pradesh is the most highly populated State in India with a population of almost 140 million, with around 105 million living in rural areas The number of households without toilets in Uttar Pradesh is almost 17 3 million There is a grudging perception across the country that if anything works in the State of Uttar Pradesh then undoubtedly it will work anywhere else in India

Unicef, therefore, initiated the first experimental RSM project in Allahabad district of UP in 1993 and later demonstrated further its cost effectiveness by expanding the concept to 28 of the 85 districts of the State

Unicef's Rural Sanitary Mart initiative in UP was the first step towards shifting the focus from a subsidised government programme to one, which is privatised The strategy adopted a three pronged approach to subsidising household sanitary facilities. The first was with a subsidy of $40 ($10 from the beneficiary) the second with $11 ($39 from the beneficiary) and the third was without any subsidy (the beneficiary was only given technical guidance and facilities by creating the necessary infrastructure by way of Rural Sanitary Marts)

Unicef negotiated with and provided support to the Institute of Engineering and Rural Technology (IERT) to extend its area of operation to cover 12,000 households with the second approach, the beneficiaries contributing nearly 80% of the total cost (as against only 20% in the case of the government programme) It was noted over the years that offering a very low subsidy component actually increased the sanitation coverage as IERT provided necessary IEC back-up and technical expertise along with the sanitary items for constructing toilets The idea of reducing

the subsidy thus became popular with a few States and was replicated in the States of Gujarat, Maharashtra, Tamil Nadu, Rajasthan and Bihar

The rationale behind setting up the RSMs in Allahabad (the third approach initiated by Unicef) was three-fold·

- To promote zero- subsidy
- To create a favourable environment for demand generation and awareness creation on the construction and use of sanitary facilities and the promotion personal hygiene facilities
- To commercialise the provision of sanitary facilities to meet the special requirements of rural areas and peri-urban areas and to facilitate private initiative for accelerating sanitation coverage

The RSM was expected to become a marketing outlet for materials required for the construction of toilets and also for all other items, which related to sanitation as a package of health related interventions (For the first time in 1993, the Government of India revised its definition of sanitation and, as given in the revised 1993 CRSP Guidelines, introduced the concept of 'Total Sanitation' having seven components namely, safe handing of drinking water, disposal of waste water, safe disposal of human excreta, disposal of garbage, home sanitation and food hygiene, personal hygiene and village sanitation Besides being an outlet, the RSM was also expected to be a counselling centre and make available information on designs for various low cost options for sanitation along with their estimated costs

A list of trained masons was also available with each RSM so that a household could approach them if required In this way, the RSM was also conceived as a resource centre for promotion of 'Total Sanitation'

Since the success of RSMs depends on their economic viability, the site for each RSM was strategically located, at places such as markets and mandis, frequently visited by farmers and traders – people who had the money and who, with some efforts at motivation (an extended activity of the RSM) would be willing to construct toilets on their own

All the 16 RSMs now functioning in Allahabad have been established in market places with a rich hinterland, expressed in terms of high irrigation and cropping intensity and a large surplus of agricultural produce, in order to ensure their sustainability and viability Certain other factors such as high population density and higher literacy levels among the people strengthened the choice of the market area where the RSM was established

Linkages With Panchayat Udyog :

(Rural Industrial Complexes)

Till 1995, in Allahabad, the 'Swachata Seva Kendras' (RSMs) were only connected to the 10 Panchayat Udyogs promoted by groups of village Panchayats, (elected local bodies), of which many were already making profits over the years manufacturing and selling steel trunks, agricultural implements, steel and wooden furniture, water tanks storage bins Some also ran their own printing press These Panchayat Udyogs then took on the manufacturing and selling of sanitation related hardware as well as cement and mosaic pans and traps, cattle through, footwear and food safes Backed by a strong social mobilisation component for demand generation, the RSMs operated from Panchayat Udyogs made profits over the years while providing evidence that RSMs are economically viable and that they open up a whole new area for investment for private entrepreneurs Between 1993 and 1998, the Panchayat Udyogs sod more than 35,000 pans and traps and 813 ferro-cement squatting platforms to private buyers with a turn over of $3 05 Million.

Cost Effectiveness Of Rural Sanitary Marts

The RSM initiative in Allahabad provided the Government of India with one more valuable lesson – that RSMs are cost effective and economically viable and that they need to form an important and necessary component of the future strategy being developed to promote sanitation An analysis of costs incurred on the RSMs showed that, had the government supported subsidy for 35,000 households, the number reflected by the number of pans and traps sold by the Panchayat Udyog RSMs, it would have incurred a cost of

nearly $17 50 million as subsidy whereas only a total of approximately $60,000 was provided by Unicef to help the Panchayat Udyogs to operationalise then Unicef provided managerial support to each of the Marts was only for a period of one and a half years The RSMs, therefore wee self-sustainable with the average time taken by them to bread even being around one to one and a half years

Awareness Creation And Social Mobilisation

The RSM has been conceived as a commercial enterprise with a social objective This concept has made it imperative for the Manager and the salesperson who run the RSM, to not only undergo specific training on different aspects of Marketing and Salesmanship but become familiarised with the components of 'Total Sanitation' and the linkages between Safe Water, Sanitation and Health Unicef, therefore, developed an elaborate 4-day training schedule with the help of experts from Institutes of Management across the country

The success of the RSM initiative in Allahabad rested largely on the quality of training given to Managers as also the social mobilisation strategy adopted by the Managers of the RSMs

Main social mobilisation activities included

- Home visits by motivators and face-to-face interaction with members of the household The household was encouraged to buy the sanitation materials from the RSM
- Identification of masons for training and facilitation their training with the help of the Block Development Officer(BDO).
- Village contact drives and use of pamphlets, posters and films.
- Displaying lists of masons and designs of toilets and counselling customers
- Providing a small incentive of $1 25 to each motivator through whom a toilet was constructed. The same amount was provided to a family, which directly bought the sanitary items from the Panchayat Udyogs

Training of Managers and motivators responsible for running the RSM

Women's Empowerment

Many RSMs are linked to Production Centres with sometimes one Production ms to a network of RSMs These Production Centres have provided opportunities Centre selling sanitary its for employment for women who are first made to undergo skill training in constructing cement and mosaic pans and traps The incomes earned by the women have given then a new status in society Most RSMs also make a special effort to display the names of the increasing number of women masons being trained in rural areas Women masons in Rajasthan and Uttar Pradesh and in other States now construct sanitary toilets and even houses

Replicability And Expansion

In Allahabad today a total of 16 RSMs are functioning of which 10 were started by the Panchayat Udyogs in 93-94, 2 are being run by an NGO and 4 by the Rural Sanitation Division of Uttar Pradesh, Jal Nigam which is the State department in charge of Water Supply The last 6 RSMs were added during 1997-98 These Production Centres have manufactured a total of 1,500 squatting platforms out of which 813 have been sold at a cost of $10 each These platforms are used for making single-pit water seal toilets with superstructures made of local material. The householder digs the pit The possibility of upgrading a sanitary toilet in stages, over the years, from a single pit to a double pit, pour flush toilet is kept in mind while constructing the single pit toilet This experiment is being implemented through trained motivators who are paid an incentive of $1 50 for every toilet constructed through them

The average monthly sale of each of the RSMs being run by UP Jal Nigam is around $3,125 There is evidence that this is the case with most of the other RSMs also It is estimated that in Allahabad the total turnover in the last 5 years, for all RSMs and Production Centres has been $2 19

million as against an approximate Unicef support of $0 55 million.

The RSM initiative is now no longer an initiative but a movement Of course, just as in any other business the RSM takes a year or so to break even, before it starts making a profit The economic viability of the RSM, however, can be justified from the simple fact that most of these RSMs have been able to sustain themselves over a period of 5 years and have shown increasing sales each year. Where RSMs did not show profits and have failed the reasons can be traced to wrong site selection, non-effective advertising and most of all to faulty product pricing, sales projection and purchase With the cost-effectiveness of RSMs well established, over the last 5 year, they spread throughout 28 districts of the States of UP, the number increasing from 16 to 175. Of these, 87 are being run by NGOs and 88 by the Panchayat Udyogs

The movement has spread to other States and the Rural Sanitary Marts are linked up to Projection Centres, as in Medinipur in West Bengal, or to employment schemes such as the Prime Minister's Rozgar Yojana in the State of Madhya Pradesh which provides loans to rural youth to start their own business

An innovative intervention by Unicef involves the National Dairy Development Board in India which has District Dairy Cooperatives accounting for 10 million members, sells milk through regional chilling centres run by village based Primary Dairy Cooperatives in many States in the country. The District Dairy Cooperatives in two cities of Gujarat have been encouraged to sell sanitary items for rural areas, along with milk, at the local milk outlets. The Sugar Cooperatives too, in a similar manner, are being roped in to sell sanitary items

From 1993 to 1998, the number of RSM in India has increased from 16 to nearly 700 The majority of them are being managed by NGOs or different Government Department. Thus, the Rural Sanitary Marts initiative, which is only 5 years old, has become a movement.

Assessment Of Sanitation Coverage As A Result Of Private Initiative

Assessment of Sanitation coverage (in terms of access to toilets) is not an easy task as toilets are constructed under different programmes, including rural housing schemes, as will as through private initiative It is also difficult as the sanitation coverage is estimated in terms of households with the assumption that there is no difference in the size of the household reporting access to a toilet However, recent data gathered from National surveys indicates that this is not the case. The percentage of population covered is reported to be larger that the percentage of households covered. Thus, the 1991 Census (conducted once in 10 years) figures revealed that the percentage of population covered is higher than the percentage of households covered, that 8 84 percent of households accounted for 11.40 percent of the population, thereby giving a multiplier of 1 29 Applying this multiplier to the figures obtained from the Governments' National Sample Survey (conducted once in 5 years) which showed a coverage of 10 96% households, the percentage of population have access to toilets worked out to 14.25 (This does not include the population with access to public toilets.)

During the year 1989-96, India added around 2 5 million toilets under the CRSP and MNP (3 million including those constructed under bilateral assistance and other housing schemes) An analysis of data on households reporting toilets as given in different national surveys and of figures obtained on coverage through Government Programme, before 1995, also showed that for every toilet constructed under the subsidised government programme, two more were constructed through private initiative Thus, during 1989-96, by applying the ration 1.2, one could realistically estimate that an additional 9 million toilets were added making the coverage increase from 11% in 1989 to 20% in 1996 If this figure is expressed in terms of population, the coverage will be more than 20%.

However, since 1995, data from different Government sponsored national surveys when analysed further, showed even more interesting and encouraging trends with regard to private initiative. The analysis clearly pointed out that for every toilet constructed through the Government programme, 4 more was being constructed by

households on there own The estimate was corroborated by the figures provided by the Multi-indicator Coverage Evaluation Survey (MICS) conducted in selected States by the Government, with support from UNICEF

Percentage Of Households Having Toilet Facilities In Rural Areas

(All India)

NSS (1988-89)	Census/ (1991)	NFHS (1992-93)	HDI (1994)
11	9 5	12 9	15 3

Number of households with toilet facilities through private initiative. The graph left indicates that at the National level the ratio of toilets constructed with private initiative to those constructed under the Government's subsidy programme as 4 1.

Influencing National Policy

The Government of India target of reaching 75% coverage level by the year 2002 based on the assumption that of the additional 55% coverage, while 18% can be attributed to the subsidised government programme, 37% will be added through private initiative by way of the Alternate Delivery System, including Rural Sanitation Marts. This is based on the assumption that for every unit constructed through the Government programme, another two units will be added through private initiative i e. Half the present estimate

The concept of Alternate Delivery System including Rural Sanitary Mart has therefore, been included as an integral component of the Government of India's strategy for promoting sanitation and has been included in the Central Rural Sanitation Programme guidelines, with Central Government funds allocated for RSMs to be opened in the States by private entrepreneurs and NGOs. The Government estimates that around 3,000 RSMs will be established during the ninth five-year plan period, throughout the country. Other initiatives for expanding the reach of RSMs through linkages with different Cooperatives and poverty alleviation programmes are expected to find a major place in the Central Rural Sanitation Programme once the guidelines are revised in July 1998

RSMs initiated in 1993 as an experiment are now expected to play a major role in the achievement of the sanitation goal of 75% coverage

`Best Practices', For Wider Replication

There should be a good balance between the subsidised and the self-financing components of any sanitation programme, which aims to promote the use of sanitary toilets.

Programmes promoting toilet should capitalise on the employment potential, which the construction of the large numbers of toilets has to offer.

Alternative Delivery System
In
Rural Sanitation Programme In West Bengal

Debkumar Chakrabarti

In West Bengal the work of rural sanitation was initiated as a part of national programme in the year 1990. Initially it was experimented in Midnapore District. The home of a number of freedom fighters, Midnapore is the most populous district of the country, with on e in every hundred Indians belonging to this district With existence of limited industry, 63 8% of Midnapore's total area is under cultivation. Agriculture is the main source of income – though presence of a coastline provides a living for many people

However, one of the main impediments of Midnapore's progress has been the fact that, a big chunk of the district is low lying, prone to flood and drought The frequent outbreaks of cholera, enteric diseases, typhoid and related episodes that follow, severely affect the life and economy of the people

Keeping this scenario of the district in mind the **Intensive Sanitation Programme-Midnapore** was launched by the government of West Bengal. This was a self-help sanitation approach In close collaboration with the Zilla Parishad, Narendrapur Ramakrishna Mission Loka Siksha Parishad with UNICEF support started the programme. In this programme there was no provision of subsidy. By way of making the villagers aware of the need of sanitary facilities they were advocated to install low-cost sanitary facilities in their household at **Source Progress of Nations – 1997* their own cost An affordable cost option ranging from Rs.310 to Rs.2930 (each of them having water- seal and therefore sanitary) was offered to the villagers. A decentralised production and delivery system was set up within the reach of the villagers. Local masons and unemployed youths were trained to work as motivators. Thus the community was involved in the programme and the community soon took the programme as one of their own. He result was that in 1990, 295 families accepted sanitary latrine In 1991 the demand was much higher – 14463 families came forward with their hard-earned money to own a sanitary latrine. The increasing trend has been continuing till today.

Experience Of Midnapore Project

The Midnapore project has exhibited the following features in from of the policy planners and implementers of the state

a) success of rural sanitation programme is not dependent on availability of subsidy : zero-subsidy approach may catch up if proper awareness is developed resulting in generation of demand.

b) In the mind of rural people there is a desire for owning a sanitary latrine, but the desire is latent It can be brought into surface only by advocacy and availability of affordable technology,

c) Fusion of wisdom and sagacity of panchayats with zeal & work-force of the NGOs can generate tremendous force in the society to initiate and sustain a movement;

d) Establishment of an alternative delivery system within the reach of community is the key to success of the programme,

Spread Of The Programme

On the basis of experiences of Midnapore project, the Government of West Bengal decided to spread rural sanitation programme in other districts of the State The Zilla parishads were requested to set up alternative delivery system for RSP by way of setting up one sanitary mart in each block. The term sanitary mart has been borrowed from other parts of the country, but its role and responsibility was different. It was not merely

a shopping centre of sanitary articles Responsibility of the sanitary mart was three pronged First, sanitary mart should build up awareness in the community by way of IEC/HRD and generate demand under the leadership of Panchayat Raj Institutions (PRIs). Secondly they should set up a production centre of sanitary wares within the project area And thirdly they should set up an animated supply line at the doorsteps of the villagers including post-promotional services

Number of sanitary marts sanctioned year wise (excepting Midnapore and Hooghly district where intensive sanitation programme is going on covering all the blocks of the districts) is given in the following table.

1993-94	13
1994-95	42
1995-96	29
1996-97	25
1997-98	14

Rural Sanitary Mart

Though the Midnapore model has been replicated in other districts, the sanitary marts in other districts differ form the Midnapore or Hooghly model In Midnapore responsibility of the entire district had been laid on Ramakrishna Mission Loka Siksa Parishad In Hooghly district the Zilla Parishad is implementing the programme in all blocks of the district But in other districts NGOs are selected for each block Naturally small NGOs/youth organisations are pressed into service for setting up alternative delivery system.

Responsibilities of the block level sanitary mart are

a) to set up a decentralised production centre within the reach of the community :

A block level production centre is set up by the sanitary mart to produce components of sanitary latrines In most of the blocks, satellite production centres are also set up to avoid inconvenience in carrying finished product The production centre helps in i) development of awareness about `what and how' of sanitary latrines, ii) development of community managed quality control mechanism iii) generation of employment in the community level

b) to take up strong advocacy in the community ·

, from local surveys conducted by Zilla Parishad's and sanitary marts it has been observed that rural families are generally willing to own a sanitary latrine for the following reasons

i) privacy of the women members of the family

ii) convenience of old and sick members of the family

iii) convenience during rainy season and at nigh

iv) desire of the young members exposed to urban influences for modern way of life

v) a perceptible, though not always spectacular, change in the quality of living of the rural people

But the desire to construct a latrine does not surface as septic tank latrine, which costs more than they can afford, is known to the villagers as the only latrine, which is sanitary They are not aware of existence of twin-pit-pour-flush latrine, which can be constructed within everybody's means On the top of it, the rural people have seen a sanitary latrine in public places like railway station, where the facilities are ill maintained. The sanitary marts take up advocacy to offset such aversion to sanitary latrine. For effective IEC the sanitary marts deploy trained village motivators, one for every hamlet of 100/150 families The village motivators come from NGO's workforce, Health Workers. Trained Dais,

Volunteer Teachers of Mass Literacy Programme, Anganwadi Workers

They take up activities like organising evening meeting, mother's meeting, school program, and intimate interpersonal contact by home visits.

c) to take up HRD activities

training is an important component of the programme The sanitary marts organise two categories of training – technical and motivational The technical training's are

i) training of master mason

ii) training of village mason

iii) training of improved chulla worker

iv) training of water quality monitor

the motivational training's are

i) orientation of panchayat members

ii) orientation of teachers of primary and secondary schools

iii) orientation of Govt officials like Sub-assistant Engineer, Sanitary Inspectors, Anganwadi Workers, Supervisors of ICDS projects

iv) orientation of youth club members

v) training of village motivators

For efficient management of IEC/HRD, two Mart Managers, two Master masons, two Master Trainers and one Song-squad Leader from each sanitary mart are trained up at state level by the State Sanitation Cell

d) To set a low cost technological option with upgradation provision

The design of pour flush latrine has been split into eleven models A villager is allowed to choose a model within his means While promoting a low priced model the upgradation provision is explained to the recipient. The investment made earlier for lower cost model is utilised fully during upgradation.

It is not out of place to mention that most of the latrines accepted by the villagers are without brick-built superstructure The policy planners also feel that installation of a brick-built latrine by the side of a mud-walled house is unnecessary The latrine should be in tune with the house of the recipient

e) To use local skill and local material

The sanitary mart produces precast RCC squatting plate, mosaic pan & trap, pit covers, latrine doors etc Promotion of mosaic pan & trap instead of ceramic pan & trap is preferred because in production of mosaic pan & trap local employment is generated Casting/Cutting/Polishing of mosaic pan as well as construction of latrine is carried out by women to generate employment for women only Pit lining is also tried by locally available resources like earthen ring, split bamboo shuttering etc

f) to link up sanitation with other ongoing poverty alleviation programmes

The PRIs link up sanitation programme with other ongoing poverty alleviation programmes In Dhalhara Gram Panchayat of Tamluk II Development Block of Midnapore district some of the villagers are inhabited by economically weaker section of community. To enhance their capacity to own a latrine, some more additional schemes wee started on priority basis That GP (Gram Panchayat) is now saturated Not even a single family, neither a child, is now found defecating in the open

Extent Of Employment Generation

While implementing rural sanitation programme, huge work is generated in production and installation of sanitary latrines only. Construction of smokeless chulla and other components generate even more work The extent of employment generation in production of sanitary wares and construction of latrines is indicated in the following table .

Average wage cost in construction of latrine being 26% of total hardware cost wage cost generated in 1997-98 is about 1 91 crores (assuming average cost of each latrine as

Rs.500 00) In addition, work has been generated in transportation, motivation activities. The programme thus generates employment and is considered as one of the employment generation programmes

Resource Convection :

From Programme To Community-Community To Programme

The Central Rural Sanitation Programme allocation together with state MNP allocation flow into the community in the shape of subsidy & cost of IEC/HRD The alternative delivery system also generates wage. Resources from the state exchequer and those of sanitary mart go into the community to generate employment and bring in welfare and improved quality of life of the community people.

Extent Of Employment Generation

	Sanitary items constructed	Cost of single piece	Labour cost including local carrying	Percentage of labour cost
1	Mosaic pan	45 50	12 20	27%
2	Syphon for fitting with squatting plate for direct pit latrine	4 14	1 50	36%
3	Syphon for latrine with off set sitting arrangement	19 95	8 83	44%
4	Pit cover	120 67	17 00	14%
5	Rectangular squatting plate	178 56	32 00	18%
6	Construction of latrine with square squatting plate without superstructure	306 00	66 00	21 5%
7	Construction of latrine directly placed over honeycomb brick pit	655 00	175 00	26 7%
8	Construction of latrine with brick built super structure and twin its with honeycomb brick work	2880 00	550 00	19%

In the reverse direction the community also mobilises resource to nourish the programme An indication of extent of resource mobilisation by the community since inception is shown in the following table:

	Item	Extent of resource mobilisation
1	Motivator's fee	420 thousand x 20.00=Rs 0 84 crore
2	Latrine cost shared by families below poverty line	350 thousand x Rs 300 00* =Rs 10 5 crore
3	Cost of latrine for families above poverty line	70 thousand x 500 00* =Rs 3 5 crore
	Total	14 84 crore

*presuming average cost of latrine-Rs 500 00

About 15 crores of rupees have been mobilised by about 420 thousand families. Per family mobilisation resources amounts to about Rs.350.00

Cost Of Alternative Delivery System

The sanitary marts are given a sum of Rs.2 497 lakh on turnkey basis. The activity wise break-up is indicated below ·

	Activities for which fund is given to set up a sanitary mart	Amount
1	Construction of workshed of the production centre with provision of water, curing vat, And a flat brick platform	Rs 72000 00
2	Procurement of moulds for production of various types of precast components	Rs 6000 00
3	Training of village masons and motivators	Rs 12000 00
4	Advocacy and awareness generation	Rs 13000 00
5	Renting of one shop @ Rs 300 00 per month, printing of cash memo And erection of sigh-board	Rs 9200 00
6	Procurement of materials required for projection of different kinds of pre-cast sanitary materials to be sold this will be the working capital and used as revolving fund of the mart	Rs 101500 00
7	Honorarium to the two mart managers @ Rs 750 00 per month per manager	Rs 36000 00
	Total	Rs 249700 00

Cost of setting up an alternative delivery system in a block having average population of 140 thousand i e 27 thousand families being nearly 2 5 crores, per capita cost comes to Rs.6.50 only, per family cost is about Rs.33.00 only. By investment of Rs.33 00 per family for setting up of an alternative delivery system, a mechanism

comes into existence, which draws Rs.350.00 per family as community resource initially which continues during upgradation

Demand Responsive & Self-Sustaining Alternative Delivery System

By such a scantly investment, a programme is set rolling which will never die. The programme is demand-driven and totally self-sustaining For making the programme self-sustaining the marts are allowed to add a small amount over the production cost as over-head cost-not with the intention of profit making

The amount of such small over-head cost has been fixed by the Government by issuing a TECHNICAL GUIDELINE Where the cost of the latrine is below eight hundred rupees, the over-head cost shall be Rs 20 00, if the cost of the latrine is more than eight hundred rupees the same shall be Rs.30 00 The chargeable cost on each of smokeless chulla, soakage pit, and bathing platform is Rs 10 00 only

The sanitary marts are to work in close collaboration with the PRIs. The panchayats promote the programme as a part of ongoing poverty- alleviation programme Generation of rural employment become infractuous, if care is not taken to minimise loss of income of rural poor families on account of morbidity of the members of the family This way of looking by the panchayats has helped the alternative delivery system to make a tangible headway.

The alternative delivery system can be set up not only by NGOs, it can be set up by any tier of the PRIs, Cooperative Societies, DWCRA groups, registered youth organisation. Prerequisite for sanctioning sanitary mart to such organisation or group is that the organisation or group should have a clean track record and some experience of social work Involvement of the panchayats in selecting NGOs for setting up of an alternative delivery system helps in developing a good relation between the PRIs and the NGOs right from the beginning. The panchayats also find it comfortable to link up the programme with other departmental schemes. The Janasasthya - O-Paribesh Shayee Samity (standing committee), of which Chief Medical Officer of Health, Executive Engineer-Public Health Engineering Department, District officer – Social Welfare Department are members, mobilises the field staff of all the Department like Health, Social Welfare, Public Health Engineering for promoting rural sanitation utilising the alternative delivery system Similarly at the Panchayat Samity level Block Medical Officer of Health, Child Development Project Officer, Sub-assistant Engineer, PHED are the members of the Janasasthya-o-Paribesh sthayee samity of the Panchayat Samity As coopted in the standing committee. The standing committee evaluates the work of RSP, identifies the problem area, and takes steps to over come the problems faced. Thus the sanitary marts never feel isolated in the field, rather they feel that they are an integral part of rural development machinery of the state

The sanitary marts are viewed by the government of West Bengal as a centre for technology transfer in rural development. The modest investment made to set up a sanitary mart is considered useful for infrastructure development and capacity building of the NGOs The Government has been thinking about diversification of mart activities in the days to come

Progress Of Work

The experimental Midnapore project started in 1990-91. Alternative delivery system in other district started functioning from 1993-94 Yearwise progress of work is as shown in the table below

It is true that Rural Sanitation Programme in West Bengal has just attained take-off stage. Alternative delivery system has been set up in 59% blocks of the state. It is expected that in the next two years alternative delivery system shall be extended to all the blocks.

The no of families so far covered is insignificant

compared to the tasks ahead According to 1991 Census there are about one crore- rural families in West Bengal, out of which only 12 31% has latrine That means 87 thousand families could be reached thr4ough intervention of sanitary marts Various studies indicate that as a result of awareness generation programme in the state more families are construct latrines of their own The extent of latrine by such self-initiative is yet to be studied A conservative estimate is that for each latrine constructed through sanitary mart, two latrines are being constructed by own initiative On the basis of such estimate present coverage of West Bengal stands at about 25%

Year	No of latrines constructed
1990-91	1201
1991-92	4843
1992-93	17133
1993-94	19571
1994-95	37010
1995-96	74788
1996-97	117123
1997-98	147072
Total	418741

Conclusion

The alternative approach on sanitation programme is unique in the sense it has placed the programme on community base It promotes rural sanitation as a holistic package and integrates the programme with other programmes of social development. It is a healthy demonstration of panchayat-guided & NGO-managed programme, which is demand responsive, not subsidy driven

The experiences of to day will be the driving force of work tomorrow. There is no place of complacency over what had been done There are crore's of unreached to reach, crores of unserved to serve There are miles to go before a look back to fathom the path traversed.

International

In this section, S. Rajagopalan explains the different low-cost sanitation options employed by various developing countries and the role being played by external support agencies.

International Experiences In Low –Cost Sanitation

S.Rajagopalan

Introduction:

According to WHO, "the poorest 1000 million people on Earth are seven times more likely to die from infectious diseases and maternal and prenatal conditions - most of which are directly related to bad sanitation - than are the least poor 1000 million"

Recently, the WHO Executive Board has sent out a call for action to help those who are in the maximum need of improved sanitation "Concerned about the vast and increasing number of people in the World who lack sanitation, living in communities that should receive the highest priority for sanitation because of the particularly high risk of disease related to unsanitary conditions," the Board at its current session adopted a resolution urging Member States "to reorient and strengthen their sanitary programmes to ensure that priority is given to communities at high risk from insanitary conditions"

Magnitude:

The actual number of people at high risk is difficult to estimate. However in most developing countries half of all urban residents and an even larger proportion of rural communities are likely to fall into the high-risk category

If we look into the magnitude of problem to be tackled according to WHO estimates on average, the global human population produces over one million tons of faeces and over six million tons of urine per day The urine produced by each person per year has enough fertiliser value to produce 250 kg of grain (Simpson-Hebert)

According to WHO press release, for decades sanitation has been given extremely low priority in comparison with other general development needs As a result, sanitation coverage in developing countries has remained constant at about one-third of the total population since 1970 Based on current trends, the total unserved world population is expected to increase to 3300 million by the year 2000 Various factors complicate the task of improving sanitation in developing countries Recent urbanisation has been very rap d, often leading to the mushrooming of informal settlements at the periphery of principal settlements These areas are usually densely populated, suffer from poor-quality housing, and frequently are not covered by municipal waste management services

In its broadest sense, if we look what is environmental sanitation than it is about controlling or changing the physical environment in order to prevent the transmission of diseases to human beings In real terms, environmental sanitation means.

i • Access to safe and sufficient water supply
ii Sanitary disposal of human excreta and household wastes.
iii Changing human behaviour through hygiene education.

The burden of disease directly linked to unsanitary conditions is horrifying
Almost

i 25 lakh deaths occur annually world-wide from diarrhoea diseases, including dysentery
ii 600,000 deaths from typhoid fever
iii 138,000 deaths from dengue and dengue haemorrhage fever

Further exposure to the faecal pollution may lead to a multitude of diseases, of which cholera, typhoid fever, paratyphoid fever, salmonella, shigella, giardiasis infection, hepatitis and poliomyelitis are of main concern

Present Status In The Developed & Developing Countries:

According to WHO in developed countries nearly all human excreta is collected safely by means of sewerage, septic and other systems However, considerable amounts of sewage are nevertheless discharged without adequate treatment into the environment in these countries In developing countries, the sanitation coverage picture is very different A small proportion of the total population, very roughly 10% and mainly urban, has access to sewerage systems and a slightly larger proportion, very roughly 20% has some type of on-site sanitation facility But the vast majority - about 65% - of people in developing countries unfortunately do not have sanitary excreta disposal systems

Of this unserved population in developing countries (2900 million), 80% of them live in rural areas Most of the faeces are recycled for use in agriculture or deposited on land without prior destruction of pathogens, most of which eventually enter surface and ground waters, sometimes surviving for considerable lengths of time Not surprisingly, infectious diseases such as diarrhoeal diseases, schistosomiasis and hepatitis are endemic in those areas Most of this biodegradable organic material is disposed of with very little or no treatment at all, thus polluting the environment with organisms that are highly dangerous to human health

Further the condition of existing sewerage systems presents further problems Many of the sewerage networks in the developing countries were constructed a century or more ago Most of these systems have not been maintained adequately Increases in population density and water consumption have caused the systems to become overloaded In most cases sewerage systems in developing countries rarely connect to effective treatment facilities

Advantages Of Environmental Sanitation.

Environmental sanitation can reduce the incidence of infectious diseases by 20% to 80% by inhibiting disease generation and interrupting disease transmission. Sustainable health, especially for children, is not possible without good environmental sanitation Countries with the highest rates of infant and child mortality and the lowest figures for income and life expectancy tend to have the poorest environmental sanitation services.

In the WHO press release, the WHO has urged in their resolution to the Member States to "give higher priority to sanitation in national planning for health and investment in infrastructure", and calls upon the United Nations and the international donor community to support efforts of individual Member States in this area To this end, a Global Environmental Sanitation Initiative has been launched, recently supported by WHO, UNICEF and other agencies

In the above context, three international experiences on sanitation are shared briefly in this article They are·

1. Dry Sanitation in Morelos, Mexico
2. PHAST Initiative in East Africa
3. Zimbabwe's Rural Sanitation Programme

Dry Sanitation in Morelos, Mexico:

Summary

Inappropriate and inadequate sanitation was causing severe water pollution problems in the valley of Morelos, Mexico Espacio de Salud (ESAC), a small non-governmental organisation in Morelos, Mexico, which works with communities in sanitation programs using a modified version of the Vietnamese double-chamber dry toilet has demonstrated how to improve sanitation conditions through demand-oriented, participatory approaches and institutional cooperation In this ESAC has used multiple

strategies for sustainability, including organisational support for community groups, environmental education, training in the construction and maintenance of dry toilets, job creation, and gender sensitivity

Background

Sanitation and Health

According to the Mexico's the National Institute of Statistics, 75% of Mexican homes had some type of sewer by 1995 However, according to other sources, which reported in 1991 that 50% of the population was connected to centralised sewage systems, but only 13 percent of this wastewater was actually treated However, most of these treatment plants either functioned inadequately (35%) or not at all (45%)

Thus lack of access to water as well as insufficient sanitation seriously compromised the health of the Mexico's population Infectious intestinal diseases were the second cause of infant mortality in early eighties (Centro de Estudios de Poblacion y Salud, 1987) Official statistics report that this rate dropped significantly between 1990 and 1995, despite the prevalence of cholera epidemics during that same period because of improved sewage system

According to ESAC while lack of sanitation systems has serious community health consequences, water pollution is caused in large part by conventional sanitation systems The massive quantity of water required by these systems also contributes to the general scarcity of this vital element Such environmental costs are unsustainable in the long run

Even though it was Mexico government's policy is to subsidise infrastructure, water but financial resources are inadequate. They felt in the foreseeable future it might become impossible to provide potable water, piping for the evacuation of wastes and treatment plants for the population
The policy of Mexico National Water Commission was to promote dry sanitation or septic tanks in villages This is linked to lack of water services and deteriorating environmental conditions

Local Context

The metropolitan area of Cuernavaca, which is Morelos' largest city and capital, sits in the foothills of the Chichinautzi mountain range, which runs west and east and separates Cuernavaca from Mexico City to the north Heavy rains fall on the oak and pine covered forest in the mountains. Where top soil removal and clear cutting haven't taken their toll, the water lazily filters into the sub-soil and travels to natural aquifers made of volcanic rock in the sub-tropical valley to the south Unfortunately, this subterranean water route and the aquifer are covered on the superficial level by houses-house with latrines, with inadequate septic tanks, with sewage water spilling directly over ravines and even some houses which send their sewage water to treatment plants, but, unfortunately, the plants are seriously ineffective

As a result, the springs, wells and irrigation canals are heavily contaminated with faecal material This results in water-borne epidemics such as cholera, infectious hepatitis, gastro-enteritis, dysentery and typhoid fever as well as the spread of skin diseases In one city, old sewage and potable water pipes disintegrated, leading to the mixing of the waters, and consequently, a cholera epidemic For people of low economic resources, the problem has been literally fatal

Further urbanisation and industrialisation during the past 20 years in the state of Morelos have caused severe environmental problems The population density has increased dramatically since 1985, with immigration of peasants escaping the rural crisis of neighbouring states as well as many from Mexico City escaping air pollution

and the threat of another earthquake. Especially in the peri-urban areas of Morelos' major cities, the lack of urban planning and adequate infrastructure results in pollution and serious health risks for the population Wastewater eventually mixed with irrigation water, which was up to 1991, was used in vegetable production

Because of the resulting high faecal content in vegetables, the government has prohibited using this irrigation in vegetable production, and has threatened to destroy crops and jail the peasant farmers This affected 43,271 hectares of rich agricultural land (MOCEDMA, 1993), where rain fall only four months out of the year The prohibition has intensified the crisis facing the farmers, prompting them to sell their lands in small portions - which further increased the urbanisation without the necessary infrastructure, and thus made more pollution

Presenting Alternatives

In order to confront these problems, the search for non-polluting alternatives first arose from within the civil sector primarily individuals and non-governmental organisations Cesar Anorve, architect and entrepreneur who grew up swimming in the unpolluted springs in Cuernavaca of 30 years ago, began experimenting with the Vietnamese double vault toilet over 15 ago One of the key elements to his success in provoking interest has been his design of a conventional-looking urine-diverting toilet seat

The toilet chambers are built above ground Urine is diverted by a special toilet seat into a container or soakpit Faeces fall into the chamber below and are covered immediately with dry soil and lime or ash in order to dry the contents, prevent odours and to kill pathogens When this chamber is full, the toilet seat is moved to the other chamber The first chamber is emptied and the toilet seat returned when the second is full

ESAC, a NGO complemented the work of Anorve by providing environmental education and technical assistance

Lessons Learned

The various advantages of the dry toilets can be better appreciated and assimilated by users when they are explained and supported by established, organised groups There are important environmental advantages to using dry toilets. Rather than producing 100,000 to 150,000 litres of contaminated sewage water per family per year (enough to fill a2x 2 5 x 30m cistern), the dry system produced approximately 5000 litres of liquid fertiliser (urine) and 300 to 500 litres of "composted" soil conditioner

Lastly, ESAC also has learned the importance of forming a multi-disciplinary network with local grassroots groups, NGO's, architects, researchers and governmental institutions, as well as networking on an international scale

PHAST Initiative in East Africa

Why PHAST Was Developed

PHAST was initiated to facilitate the empowerment of society members (young, old, female and male, higher and lower status) in a participatory process to assess their knowledge base, investigate the local environmental situation, visualise a future scenario, analyse constraints to change, plan for change, and implement the change in East Africa

What Is PHAST ?

PHAST stands for:

P articipatory
H ygiene
A nd
S anitation
T ransformation

The PHAST Program was initiated in 1993, by the Regional Water and Sanitation Group in Eastern Africa (RWSG-ESA) and the

Community Water Supply Unit (CWS) of the World Health Organisation (WHO), Geneva

PHAST is a unique approach Methods and materials that stimulate the participation of women, men and children in the development process are used in it It relies on the training of extension workers and on the sets of graphic materials developed on site, and uses them as tool kits in order to reflect the actual cultural and physical characteristics of communities Thus production of PHAST materials requires trained artists as well as trained extension workers

HOW Was PHAST Initiated?

The PHAST Program was officially begun in September 1993 with a one week pre-planning workshop in Nyeri-Kenya This was followed by a training of trainer's workshop held in Uganda in October 1993

The participatory methods and materials were tested in pilot/demonstration projects in five African countries of Botswana, Kenya, Uganda and Zimbabwe and also Ethiopia to a minimal extent Participants then organised national and district training workshops and further adapted the methods and tools to local situations' Thus field testing the methodology in different environment and socio-economic conditions in their respective countries were carried out.

What Has Been Achieved?

The achievements of the program for exceeded expectations

Over 20 districts in four countries were involved in the program Training of trainers was conducted in each country and a total of over 25,000 people have been trained in the respective districts

For example in a low income peri-urban community in Uganda (Katwe Urban pilot project), within six months of an initial visit by one on the field worker, the community has built latrines, organised for operations and maintenance of neglected drains, collected tariffs to pay maintenance workers for the drains and water points and organised their own system for monitoring community sanitation.

Impact of PHAST On Communities

Kenya

An 84 year old woman in Kenya said All my life people have been coming here and telling us what to do. This is the first time any one ever listened to what we think"

Uganda

"In a village in Uganda the community decided to make a map to track the growing number of family latrines and improved water sources They asked a local artist to draw the village marking each household that had built or arranged for the building of a latrine and also showing the water and sanitation problem areas in the village The map hangs on the headman's office and is brought out for meetings of the village committees to assess progress."

Zimbabwe

In rural community in Zimbabwe in the space of eight months 24 latrines, which had been left unfinished, were completed and 18 family wells were upgraded

What Are The Benefits?

- Formation of village health committees and requests to be taught as to how to use the tools
- Increased awareness and knowledge on hygiene and health
- Latrine coverage increased
- Community members enjoyed being trained in the use of participatory methods and became competent in their use
- Health committees made plans for building latrines and operation and maintenance of water points and created a system of community monitoring water and sanitation

Lessons Learned

Requirements for successfully applying PHAST in Water supply and Sanitation Programs are:-

- Policy commitment to adapt participatory strategy
- Institutional structure supportive of participatory approaches
- Adequate resources (not necessarily additional resources) Probably re-organisation of existing resources
- pilot projects for the development of country specific materials
- Back up support from trainers and supervisors until extension workers feel confident in the PHAST approach
- On-going monitoring and evaluation of progress of impacts

Zimbabwe's Rural Sanitation Program

Objectives and Policy Issues

The Zimbabwe government has a broad policy that every rural household should have access to improved sanitation (a Blair VIP Latrine) and also a protected primary water supply. It had two phases' approach in reaching acceptable service levels over a period of 20 years, which was agreed in the late 1980's.

The aim is to achieve service level one by the year 2000 when all people in the communal lands and resettlement areas should have access to a protected primary water supply and 50% of the people have access to at least a Blair VIP Latrine Service level 2 is achieved by the year 2010 when everyone in the rural areas has access to safe drinking water from a PWS within 500 meters of the home and every household has at least a Blair (VIP) Latrine

Marketing & Promotion

Since 1980 the government and politicians have supported the rural sanitation program It was possible because the technology is "home grown" and very popular with the users As a result the "Blair Latrine" and all programs associated with it received popular press coverage, as it is a source of national pride As stated above, the Ministry of Health has supported an active promotion campaign for many years throughout the entire country and the offer of a material incentive has turned theory into practice for hundreds of thousands of families The construction and use of the Blair Latrine also forms part of both primary and secondary school curriculum Models are built and the operations of the latrine are taught Most rural schools have examples on their ground's multi-compartment Blair Latrines

The private sector has also played a part. At least two large companies have promoted the latrine by selling commercial ventilation pipes and tens of thousands have been sold over the last 15 years. In addition there are several companies making commercial "kit form" and "easy to construct" models of the toilet, which mainly serve the commercial sector on farms and estates

However the greatest marketing tool is the success of the technology itself The technology is simple, effective and long lasting and has low maintenance requirements when built correctly The almost total absence of odour makes it very suitable as a washroom, and most rural "Blairs' are used for this purpose It is also a status symbol and there is much competition to complete the best and most decorated unit Ironically the standards of construction of many Blair Latrines is higher that the house itself This may be considered as the beginning of a home improvement project

The campaign has resulted in the construction of over 300.000 family Blair VIP latrines and a few thousand multi-compartment school latrines in the national program and many tens of thousands more in the commercial sector Clearly this has been a result of a mixture of sound technology plus

practical marketing and also proper financial arrangements

Some Lessons Learned

Many lessons have been learned are still being learned form the Zimbabwe National Rural Sanitation Program It is clear from this experience if a nation supports something "home grown" with a national character then it can have excellent impact The concept of a material incentive do have a very strong motivating power - and the program has proved beyond doubt that it makes people spend much of their own money on building latrines. The aim has to be to keep material assistance low, but at the same time still retaining its influence on motivation The importance of priming the population with a long-term national health education program is clearly revealed in this program. The years of low - key educational and awareness campaigns, which promoted the importance of building hygienic latrines, using safe water points and practising good personal hygiene has influenced the rural populations. They were prepared for an era when support would come from outside to help There is no doubt that this program has played part in improving the state of well being and living standards of hundreds of thousands of families living in the rural areas The greatest test however remains To help oneself without or with the minimum "outside" support Even the latrine at the bottom of the garden can be a source of pride and family status within the community Such a source of pride is an important aspect of family life.

Another lesson that agencies might learn is to encourage local development and inventiveness and not to stop it The success of the rural sanitation program in Mozambique is partly due to its "home grown" nature and therefore acceptability to a wide range of people living within the country National pride is as important to countries in the developing world as it is to any of the most developed countries in the world It is important to make full use of local expertise, build on well-known or traditional concepts and give the program a local flavour

The program has also shown that there is a need to encourage development on a family or extended family basis because such a program can tap into resources, both human and material, that are unavailable at the community level

Summary of Lessons Learned

From the above three experiences we can summarise the lessons learned. They are -

: chieving universal coverage

- Governments need to focus more specifically on the goal of universal access to water and sanitation and to establish the process of developing, implementing and monitoring action towards these goals
- Governments need to focus more on promotion, facilitation and co-ordination of services rather than merely on their provisions
- Appropriate technologies contribute to have a vital role to play
- Greater equity in access to services will accelerate progress towards universal coverage
- NGOs can play a catalytic role as champions of the poor and agents of change

Promoting sustainability:

- Community involvement is an essential element of sustainability
- The active involvement and empowerment of women promotes sustainability of services
- Water and environmental sanitation efforts must be linked to social services and other development activities
- Sector programmes must address environmental degradation and pollution.
- Sector monitoring and evaluation deserve emphasis

Maximising social and health benefits:

- Greater emphasis on sanitation, hygiene education and social mobilisation support of priorities and goals of the sector are essential
- The interplay of technical, economic, political, environmental and social dimensions in water supply and sanitation programmes must be recognised to design effective programmes
- Local development and innovativeness to be encouraged and not stopped

Effectiveness of resource mobilisation and use:

- It pays forming a multi- disciplinary network with local grassroots groups, NGO's, architects, researchers and governmental institutions, as well as networking on an international scale
- What is required is adequate resources (not necessarily additional resources) Probably re-organisation of existing resources
- Determined actions can reduce costs and improve cost-effectiveness
- Prudent cost sharing and cost-recovery, with due consideration to the ability of the poor to play, is an instrument for resource mobilisation, for promoting sustainability and for improving access by the poor
- Private entrepreneurship should be promoted where potential and opportunity exists

The following references are thankfully acknowledged

1 *HANDOUT HYGIENE & SANITATION on Dry Sanitation in Morelos, Mexico an NGO Perspective, Community Water and Sanitation Conference, May 5-8, 1998 Washington, DC*

2 *HANDOUT HYGIENE & SANITATION on PHAST Initiative in East Africa, UNDP -World Bank, Water and Sanitation Program RWSG-ESA, Community Water and Sanitation Conference, May 5-8, 1998 Washington, DC*

3 *HANDOUT HYGIENE & SANITATION on Case study of Zimbabwe's Rural Sanitation Programme, Peter Morgan Munramauzi Trust Zimbabwe April 1998, Community Water and Sanitation Conference, May 5-8, 1998 Washington, DC*

4 *World health organisation Press Office, press Release WHO/18, 29th January, 1998*

5 *UNICEF Strategies in Water and Environmental Sanitation*

Success Story

In this section, Prakriti Kumar Chakraborty highlights how the Public Health Engineering Department of Assam, was able to launch a 'Pilot-Cum-demonstration' intensive sanitation programme in Kamrup district. The paper also discusses the various methods & options adopted for making this programme a success.

Rural Sanitation Through Public Health Engineering Department –The Assam Experience

Prakriti Kumar Chakroborty

In Kamrup district of Assam, a pilot-cum-demonstration project on "Intensive Sanitation" was implemented by Assam Public Health Engineering Department (APHED) from 1992 with financial assistance from the Government of India, Government of Assam and the UNICEF. The objective of the project was to develop a viable and sustainable system for promoting self-help sanitation programme in the rural areas comprising all the basic components of sanitation as a package

The project was implemented with focus on the following basic approaches -

- Demand generation through awareness, motivation, information sharing Institutionalised provision of incentives for NGOs, motivators based on output, i e amount of incentives to be paid depending upon the number of latrines and other amenities actually got constructed by the people,
- Developing different technological options suiting to the functional requirement with varied cost range according to the affordability of different income level enabling people to make choices,
- Ensuring the transfer of technology and skill at the grass root through training, demonstration, experience sharing,
- Streamlining delivery mechanism i e establishing sanitary mart, production centre so that the requisite material for the construction of the latrine as well as for other water supply and sanitation related activities can be produced and delivered at the door step of the villagers at the reasonable price and quality,
- Inducing innovativeness and flexibility in the system for continuously perfecting the technological options as well as modifying strategic approaches as and when necessary to satisfy economic, social and technical requirements;
- To facilitate project implementation, APHED constituted Project Management Unit (PMU) manned by departmental personnel, PMU have been empowered with better flexibility of functioning than the conventional government organisation
- Efficient identification of unnecessary cost,
- Continuous value improvement of the product accomplishing the desired function at the lowest cost without any sacrifice in quality, reliability, maintainability, availability, aesthetics etc Should be the overall aim of the production process

Some of the important learnings of this demonstration-cum-pilot project are as under

i When the project was launched in 1992, very few households of the rural areas of the district had the knowledge about the pour flush latrine (PFL) as a cost-effective technological option for excreta disposal An evaluation study had been carried out in 1996 regarding the impact of this project, it was noticed that in the district of Kamrup, 84 per cent of the surveyed rural household were aware of PFL type as compared to the state average of only 22 per cent Though various approaches had been adopted for dissemination of information and motivation, it was found that inter-personal contacts had been very effective 55 per cent of the households had acquired the information of PFL from NGO/motivator engaged for the project, 24 5 per cent from Government project personnel of APHED department, 15.4 per cent from their friends and relatives

ii Output link incentives for motivation and then prompt disbursement had provided a significant impetus to the programme, as motivators worked harder to earn additional income Of the latrines

constructed in the rural household through private initiative, the number of unhygienic latrines at Kamrup district was just 31 4%, while the state average was 64 5% This qualitative change may be only due to the appropriate intervention by the concerned

iii Large percentage of illiterate as well as below poverty level household owners had also constructed hygienic latrines with their own cost in the project area and the women members of the households had been found playing a very crucial role in the decision-making process

iv From the sample survey, it was found that in the rural areas of the district, 64 6 % of the hygienic latrines constructed were of PFL type and remaining was of septic tank type Further, 76 5 per cent of PFL type was constructed through self-help programmes had rectangular squatting plate with mosaic pan and trap directly placed over the lined/unlined pit The cheapest model costed about Rs 500/- with the flexibility for upgradation

v Almost all the households had constructed their PFL type by procuring the material from the PHED managed production centres engaging skilled and trained masons, implying that for motivation into action, support of dependable and accessible outlet was a must When the people were paying for themselves, they wanted maximum value in return All the four basic elements of marketing mix, e g product planning, pricing, promotion and physical distribution deserves due importance in the social marketing approach For ensuring cost-effectiveness considering the affordability of our major section target-segment, value engineering and quality assurance of the project should form integral part of the systems

Any compromise on quality of material and installation will have frustrating effect

The project also has been demonstrating how the potentials of government organisation can be effectively channellised for successful implementation of people –oriented demand-driven programme, with appropriate orientation and restructuring.

Lesson

The learning from the demonstration-cum-pilot project can be of an immense value for working out realistic optimal approach for quantitative expansion ensuring desired quality in the self-help rural sanitation programme.

Percentage Of Unhygienic Latrines Constructed By Household Owners Of Different Educational Status (Urban And Semi-Urban Areas Of Assam)

Educational Status of Household owners	Unhygienic Latrines as per cent of total number of latrines constructed
Illiterate	78 1
Primary	44 4
Matriculation	27 8
Graduation	12 2
Post-Graduation	5 9

Construction Of Unhygienic Latrines According To Income Level

Income level of household (Rs./annum)	**Unhygienic Latrines as percent of the total number of latrines constructed**	
	Rural	**Urban/ Semi-Urban**
Upto Rs 8,500 (Below poverty line)	96	82 2
Rs 8501-11,000 (Below poverty line)	92 8	68 1
Rs 11,001-20,000	77 9	57 6
Above Rs 20,000	45 7	20 5

The Brief Specification Of Latrines Constructed (Average) Of Different Cost Range

Latrine Component	Brief Specification of Latrines Constructed (Average) of Different Cost Ranges			
	Up to Rs 500/-	Rs500-1000/-	Rs 1000-Rs 5000/-	Rs 5000 & above
Super Structure	Bamboo/Hessian Clothes	Bamboo/Wooden Planks	Bamboo/Wooden Planks Brick work	***Brick work***
Door	Bamboo/Hessian Clothes	Bamboo/Wooden planks	Bamboo/Wooden Frame and /CI Sheet	***Wooden/Wooden Frame & CI Sheet***
Roof	No Roof	Bamboo/Thatch	Bamboo/Thatch/C I Sheet Roof	CI Sheet Roofing/RCC Roofing
Squatting Platform	Mounted Bamboo Squatting Platform (Directly over pit)	Mounted Bamboo Squatting Platform (Directly over pit)	Mounted Wooden Platform /Masonry Squatting Platform with plinth and foundation	Masonry Squatting Platform with plinth and foundation
Pan & Trap	Hardly any Pan & Trap is used	Hardly any pan & Trap used	In some cases FRP Pan Trap /Ceramic Pan with Trap are used	FRP Pan with Trap /Ceramic Pan with Trap
Excreta Disposal	***Uncovered unlined pit/open drain/water bodies Uncovered***	Uncovered in lined pit/open drain/water bodies/extra deep pit	Uncovered unlined Pit/covered pit	Covered pit/Septic Tank with soakage pit
Remarks	***Almost all are not hygienic***	Very few are hygienic	Mostly hygienic	All are hygienic

Note on Contributors

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NATIONAL SEMINAR ON RURAL SANITATION

July 9, 1998 0830-0900 REGISTRATION

INAUGURAL SESSION

0830-0900	Registration	
0900 hrs	MOS (RA&E) arrives	
0900-0915	**Inaugural Session**	
0900-0902	Welcome	Secretary (RD)
0902-0910	Speech	MOS
0910-0913	Address	Ms Razia Ismail, Officer-in-Charge,UNICEF Country Office
0913-0915	Vote of Thanks	Mr Palat Mohandas, JS(TM)

PLENARY SESSION-I

Chairperson-Smt. Asha Das, Secretary, D/o Women & Child Development

Co-Chair – Shri V Ranganathan Addl. Chief Secretary, Maharashtra

0915-1015 Audio Visual presentation of 4 successful stories (10 minutes presentation followed by discussions)

1 Self Financing Sanitation in West Bengal	Shri S K Mishra Hon'ble Minister, Govt of West Bengal
2 School Sanitation in Ambala	Ms Veena Sehgal SC DTC, Nilokheri
3 Alternate Delivery System and Credit Mechanism	Sh G P Kumbhat UNICEF, U P
4 CDD-WATSAN Strategy	Sh Santosh Satpathy Collector, Ganjam

1015-1045 TEA BREAK

PLENARY SESSION-II	**Chairperson – Secretary (RD)**	
	Co-Chairperson – Smt. Krishna Singh, Adviser, Planning Commission	
1045-1130	Review of the Programme Base Paper for the Seminar	JS(TM)
	Discussion	
PLENARY SESSION – III	**Chairperson – Shri N Ramji, Director General, CAPART**	
	Co-Chair – Shri Ishwarbhai Patel	
1130-1300	Technical Options and Sanitation Upgradation (followed by Discussions)	Shri P K Chakraborty Additional Adviser RGNDWM
	What the People Know and What they Practice (KAP Study findings) (followed by discussions	Prof J S Yadav, IIMC
	Promoting Sanitation and Hygiene through Schools and Anganwadis (followed by discussions)	Smt C R Chibber, JS, DWCD
1300-1400	LUNCH	
PLENARY SESSION – IV	**Chairperson – Shri M Shankar, Addl. Secretary & Financial Adviser**	
1400-1530	Economic Returns from Sanitation	Dr K Pushpangadan CDS, Trivandrum
	Status of sanitation in India based on the earlier surveys of NSSO and Population Survey 1991 (followed by discussions)	Dr Murugan CDS, Trivandrum
	Partnership – A Comparative Case Study of West Bengal and Gujarat (followed by discussions)	Dr Ashish Panigrahi ORG
	GROUP FORMATION	
1530-1600	TEA BREAK	

July 10, 1998	0900-1130	**Group Discussions (6 Groups will discuss)**

1 Demand Generation
2 Technical Options & Sanitation Upgradation
3 Subsidy, Alternate Delivery System and Credit Mechanism
4 Sectoral and Institutional Alliance
5 School Sanitation
6 HRD

&
Finalization of Group Reports
(Tea in Hall)

PLENARY SESSION – V		**Chairperson – Secretary (RE&PA)***
	1130-1300	Presentation of Group Reports
	1300-1400	LUNCH
CONCLUDING SESSION		**Chairperson – Secretary (RD)**
	1400-1530	Open House
	1530-1600	TEA
	1600-1645	Presentation of final Recommendations – Selected Group Chairperson
	1645-1700	Valedictory Address – Secretary (RD) & Concluding Remarks
	1700 hrs	Press Conference – Secretary(RD)/JS, TM

*Subject to confirmation