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**EVALUATION STUDY OF LOW COST SANITATION
PROGRAMME**

ANDHRA PRADESH

OCTOBER 1990

**URBAN INFRASTRUCTURE FINANCE WING
HOUSING & URBAN DEVELOPMENT CORPORATION
AND
INDIAN HUMAN SETTLEMENT PROGRAMME
HUMAN SETTLEMENT MANAGEMENT INSTITUTE
NEW DELHI**

822-90-10402

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BARCODE 10402
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INTRODUCTION

It is the aim of the Government of India to make the country totally free of manual scavenging by the end of 1994. In order to fulfil this aim, the subsidy component of the Ministry of Welfare and the Ministry of Urban Development has been dovetailed to HUDCO's loan component, since 1989, to provide thrust to the execution of the programme. The programme includes the conversion of dry latrines to water-seal pour-flush latrines and construction of new and community latrines, which will eradicate the inhuman practice of manual scavenging. Simultaneously, rehabilitation programmes will enable the scavengers to acquire new skills and find other professions. So far, 396 towns have been covered under this low cost sanitation programme, liberating as many as 17,270 scavengers.

Series of Evaluation Studies by HUDCO

In order to enable HUDCO to help to promote formulation of viable projects and to have feed back on the design, administrative arrangements and operational and maintenance cost of Low Cost Sanitation, it was decided to sponsor evaluation study of Low Cost Sanitation in various states. This study for the state of Andhra Pradesh is the second attempt in this direction.

Objectives of the Study

In broad terms the objectives of the study is to evaluate the performance of low cost sanitation schemes in selected towns and help HUDCO formulate policy strategies.

Town Profile

The towns covered in the study of Andhra Pradesh are Vijayawada, Bhimavaram, Srikakulam and Anakapalle. Another town Amalapuram, was added for field observations. All towns belong to the category of small and medium towns with Vijayawada is being largest town.

The survey revealed that the household size varies from 6.83 in Vijayawada to 6.0 in Anakapalle. Bhimavaram and Srikakulam are the poorest towns among the four. In Bhimavaram 43 per cent earn less than Rs.700 per month while in Srikakulam 37 per cent earn less than Rs.700 per month. Vijayawada is the richest where 45 per cent of the interviewed households earn more than Rs.1500 per month. The main sources of income are petty labour, private service, business and agriculture. The level of

education indicates that in Bhimavaram and Srikakulam the illiteracy is still quite high. In Bhimavaram 48 per cent of the respondents are illiterate while in Srikakulam 60 per cent of the respondents are illiterate. In Vijayawada and Anakapalle the level of education is higher where more than the 60 per cent of the respondents have finished school or college. In Vijayawada the individual and community hand pumps are the main source of water. In Bhimavaram and Anakapalle open wells are used. In Srikakulam piped water supply is the main sources of water. The Low Cost Sanitation programme in the four towns has been implemented since 1984 and has been supported by HUDCO and the State Government.

Survey Results

1. FUNDING ADMINISTRATION AND MANAGEMENT OF LOW COST SANITATION PROGRAMMES

In the selected towns, the following progress had been achieved (July 1990)

Vijayawada	:	13,787 units
Bhimavaram	:	2,833 units
Srikakulam	:	1,349 units
Anakapalle	:	1,028 units

In order to undertake the programme, the local agency needs to be fully prepared in terms of

- a) adequate, appropriate and competent personnel for implementing the programme
- b) proper assessment of local situation and beneficiary needs
- c) approval from the state government
- d) adequate finance to start the programme and
- e) bank / state guarantee

Programme initiation

It was found that the programme initiation had been done without a comprehensive local situation needs assessment. However, in Vijayawada such a study was conducted in 1982. The early survey revealed that 5,530 houses had insanitary latrines and 14,113 houses had no latrines at all. The programme in Vijayawada was implemented in 1986 making the survey's result to a large extent redundant due to many changes in the households. These changes comprise:

- a) several households converted their latrine into sanitary flush type latrines with their own resources.
- b) several houses were sub-divided into two or more portions between the family members for letting out and thereby sufficient space was not available to construct leach pits.
- c) several house owners expanded to build space/rooms thereby leaving little space for the leach pits.
- d) several house owners having tried dry latrines with temporary superstructures have made the superstructures permanent. They do not wish to convert the dry latrine into a pour flush latrine since the superstructure would be affected.
- e) Many existing latrines have been converted into bathrooms and therefore there is no space for constructing a pour flush latrine.

The delays in Vijayawada have been on the account of inadequate staff to undertake the programme and the incapability to pursue the matter with the State Government. On the other hand, the State Government also did not take action for a long time on account of lack of funds. In Srikakulam and Anakapalle the State Government had sanctioned the programme in 1984 after a delay of about a year. The programme was implemented almost without delay after sanction. Bhimavaram represents a good example where strong initiative and persuasion by the local implementing agency has resulted in no delays in sanctions. The programmes commenced in the same year.

Procedure for implementation of Administration and Management

House owners intending to either convert or construct new latrines have to make an application to the respective Municipal Corporations or Municipalities in a prescribed form, indicating the required capacity of the latrine, i.e 5, 10 or 15 users. The applications are scrutinised by the local authorities and site inspection is done so as

to ascertain the availability of space. Release of loan amounts has been related to the required capacity of the latrine. It has not been related to the income of the households. The house owner is expected to construct the latrine by himself or through his authorised contractor. The local agency does not undertake any construction activity. Its role is restricted to paper work and to act as a facilitator. When the construction is done the local agency inspects the construction work. On completion of the construction the loan amount is released to the house owner or his authorised contractor through a cheque. The quality of construction is found satisfactory. However, since the actual cost is more than the actual cost, a number of cases have been found in which people were not able to raise the additional amount and the quality of construction has therefore not been upto the mark.

The administrative and managerial support for the programme in respective four towns has been found satisfactory. However, the technical staff need to be trained and acquainted to the programme components since some of them are not fully conversant with the pour flush latrine technology.

The physical progress in completion of Low Cost Sanitation units has been satisfactory Vijayawada (70%), Srikakulam (70%) and especially Bhimavaram (82%). In Anakapalle it has been unsatisfactory (49%). One of the main reasons is that promotion of the low cost sanitation programme has been lacking.

Estimated and real unit costs

The estimated costs of pour flush latrines vary from around Rs 700 per unit to Rs 1600 per unit depending upon the capacity of the unit. The cost was calculated in 1985-86 based on the Standard Schedule of Rates. In Vijayawada, the costs have been revised based on 1988-89 Standard Schedule of the Rates. The actual cost to users is however, slightly higher than the indicated costs as people invariably make variations in the specifications. This increase in expenditure was found to be around 10 per cent.

Funding, fund utilisation and loan recovery

The programme was funded on a matching basis by the State Government and HUDCO. In all the cases, it can be said that State Government subsidy has been fully utilised when the HUDCO loan has not yet been fully utilised. The utilisation of the HUDCO loan in Vijayawada was 48 per cent (Rs.8,014,000), in Bhimavaram zero

per cent, in Srikakulam 27 per cent (Rs.290,000) and in Anakapalle 3 per cent (Rs.34,000). In spite of the state of utilisation the physical progress has been good as stated earlier. In Bhimavaram for example this has been on the account the fact that part of the State Government subsidy which was budgetted for community latrine has been used as loan for individual latrine thereby recording high progress for individual latrines. This was done since there was little demand for community latrines.

As far as loan recovery is concerned, Vijayawada has recovered Rs. 1,39,000 (1.7%) and Bhimavaram Rs 89,000 (30.7%). The other towns is yet to initiate recovery proceedings. The recovery is poor and the reasons are several :

- a) low level of affordability of the people
- b) lack of willingness to pay to Government agency and
- c) laxity on the part of the bill collectors to collect the instalments

Promotion

The overall rate to which people seek the HUDCO loan has been very low and the targets are yet to be achieved even almost after four years. This has been on the account of absence of promotion. One exception is Bhimavaram. Programme promotion has been done by using the media and audio visuals.

Role of NGOs in Low Cost Sanitation Programme

The surveys in the selected towns of Andhra Pradesh have revealed that involvement of NGOs has been totally neglected by the local agencies. In fact, the local agencies were in total ignorance of the role of NGOs in implementing low-cost sanitation programme. A strong case for improving the programme and suitably incorporating NGO's is of prime importance.

2. TECHNICAL ASPECTS OF POUR FLUSH LATRINES IN SELECTED TOWNS

Superstructures

The standard UNDP design for two pit pour flush latrine manual recommends the superstructure size of 1.13 m x 0.98 m. However, the survey reveals that the actual

situation is quite different, since 70 to 80 per cent of the respondents have complained that the cubicles are too small. People may have tried to economise by reducing the size, but darkness and discomfort has led to discontentment. Another indicator of the superstructure is the materials with which it is constructed. In Bhimavaram superstructures have been completed satisfactory with plastering and whitewash (71 per cent). Whereas in the other three towns, only 23 - 35% superstructure have been completed with plastering and whitewash.

Average of 25 to 60 per cent of the PF latrine super structure in the sample cases have been observed to have damaged superstructure: cracks in walls, broken of doors and damaged roofing sheets. These have largely been on account of the effect of the cyclone in Andhra Pradesh. This therefore makes a very strong case for proper superstructure in PF latrines built in cyclone prone areas.

A variety of roofing materials have been used depending on the local situation. In Vijayawada 50 per cent of a household have used stone roofing while in Bhimavaram 78 per cent of household have used reinforced concrete slabs.

Survey shows that as many as 65 to 80 per cent of the sample cases reported rain water entry into the pan and pits. It has been observed that the absence of adequate projections of the roof over the latrine door has contributed to it. Further, inadequate plinth height above adjoining ground level also contributes to entry of rain water.

The UNDP - TAG manual specifies the design for the pan of the pour flush latrines. In the selected towns, the local implementing agencies have been able to supply the standard design pour flush fibre-glass pans to the beneficiaries. The slope of the latrine floor has been observed to be proper in terms of its ability to drain off the water and keep the floor dry.

Breakage of pan, foot rests, floor and pit covers was commonly prevalent in studied towns.

Leaching Pits

As per the UNDP Project standards pit size varies from 0.9 m dia to 1.2 m dia and from 1.15 m depth to 1.5 m depth. In the selected towns, whereas the depth of the pit has been found to vary from 1.15 m to 1.5 m, the diameter has been found to be constant in all cases at 0.9 m. This has been on account of the usage of standardised cement

rings instead of a honeycomb brick wall. The cover for the pits has been found to be of the same design in all the cases.

The distance between the two pits is a very important indicator of the successful performance of the pour flush latrine. 47 per cent of the samples in Vijayawada, 22 per cent in Srikakulam and 53 per cent in Anakpalle have shown only 0.6 m distance between the pits. In Bhimavaram, 74 per cent of the cases had maintained the 0.9 m distance between the pits.

As regards the distance between water source and pits in the sample surveyed, a minimum distance of 6 to 8 metres has been observed.

Overflow of sewage normally occurs when either the pit is full and the flow has not been diverted to the second pit or when rain water enters the pan/pits in large quantities. It was in Anakpalle that only a small percentage of the sample reported overflow of sewage on account of the filling up of pits.

3. USER'S ASPECTS OF LOW COST SANITATION PROGRAMMES

Knowledge and awareness of construction, use and maintenance of pour flush latrines

In the selected towns of Andhra Pradesh, people's knowledge and awareness has been limited. In Vijayawada, Srikakulam and Anakpalle, 70 per cent of the beneficiaries reported a lack of knowledge regarding the pour flush latrine technology. Even the local implementing agencies are not fully aware of the varied dimensions of low-cost sanitation.

User's Satisfaction (See also table)

Water scarcity has been reported in 80% of the sample households. Nearly 20 to 30 per cent of the users have reported foul smell.

As regards privacy, in all the selected towns in Andhra Pradesh, conditions of privacy were found to be satisfactory.

A high 70 to 100 per cent of the beneficiaries in the selected towns reported that the cubicle size was too small and nearly 50 to 80 per cent of them reported of darkness within the cubicle.

Sl. No.	Problems	Vijaya-wada	Bhima-varam	Srika-kulam	Anaka-palle
1	Foul Smell	110(27.50)	16(18.80)	8(20.00)	6(20.00)
2	Water Scarcity	80(20.00)	-	-	-
3	Overflow of Sewage from Pan	-	-	-	2(6.7)
4	Overflow of Sewage from Pits	-	-	-	6(20.00)
5	Darkness in Cubicle	250(62.50)	40(47.08)	36(90.00)	25(83.33)
6	Cubicle too small	281(70.25)	66(77.64)	32(80.00)	30(100.00)
7	Rainwater entry into Pan	265(66.25)	63(74.12)	31(77.50)	24(80.00)
8	Rainwater entry into pits	85(21.25)	70(82.35)	30(75.00)	22(73.33)
9	Damaged Super-Structure	96(24.00)	60(70.59)	22(55.00)	19(63.33)
10	Lack of knowledge working of PF Latrine	280(70.00)	35(41.18)	30(75.00)	23(76.67)

4. COMMUNITY LATRINES

The concept of community latrines is to provide common latrine facilities by the local agency instead of providing loans for construction of individual latrine by the beneficiaries so as to achieve more speedy instantaneous improvement in the conditions

of sanitation. Amongst the selected towns in Andhra Pradesh, only the town of Bhimavaram has a component of community latrines in the low cost sanitation programme.

In all 38 community latrine blocks were proposed to be constructed in Bhimavaram. However, only 5 blocks of 16 seat community latrines and 9 blocks of 12 seat community latrines have been constructed. The cost of the 16 seat community latrine block has been Rs.65,000/- and that of 12 seat community latrine has been Rs.55,000/-. The community toilets that have been completed have separate cubicles for men and women. The superstructure of the toilet is pucca with brick walls and reinforced cement concrete roofing. Ordinary cement flooring has been provided. Cement grills for ventilation have been provided in each of the cubicles. No glazed tiles have been provided unlike in community toilets built recently in some resettlement colonies of Delhi. Open tanks have been provided in each of the community latrine blocks for storing water. Rectangular honeycomb pits of equivalent capacity to individual latrine pits have been constructed.

The Bhimavaram Municipality has decided to stop the community latrine scheme due to the low level of acceptance and usage by the people. People's non-acceptance has been not on account of lack of water availability or poor quality of construction. They would much rather prefer to avail of loans for constructing and using individual latrines.

LIBERATION OF SCAVENGERS

Before the programme there were about 400 scavengers in Vijayawada, 190 in Bhimavaram and about 60 each in Srikakulam and Anapalle.

The HUDCO sponsored low-cost sanitation scheme has been able to do a laudable work by liberating an estimated number of 310 scavengers in Vijayawada, 70 in Bhimavaram, 30 in Srikakulam and 25 in Anapalle. However there is further need to liberate and rehabilitate remaining scavengers. The liberated scavengers have not been rehabilitated since there was no rehabilitation component in the earlier HUDCO Low-cost Sanitation Schemes. Today HUDCO's 'whole town' approach to Low Cost Sanitation Schemes includes the rehabilitation of scavengers.

The evaluation study was done by the Housing, Urban Development & Municipal Affairs (HUDMA), New Delhi for the Urban Infrastructure Finance Wing (UIFW), HUDCO





