

FINAL REPORT

ON

Supervision of Implementation of The Government of West Bengal's Action Plan on Health Care Waste Management in 100 Selected Health Care Institutions in West Bengal



Assignment Entrusted By

**TATA Consultancy Services
(TCS)**

Conducted By

**Society for
Direct Initiative for Social and Health Action
(DISHA)**

Dedicated to

*The people who are sincerely
striving for safe disposal of
health care waste*

INTRODUCTION

Late 1990s witnessed certain development of awareness regarding safe disposal of bio-medical waste among the health care managers, environmental authorities, NGOs and sections of citizens of the country. With the introduction of the 'Bio-Medical Waste (Handling and Management) Rules 1998' started a definite process of institutionalization of the awareness. The state Pollution Control Boards were designated as Prescribed Authority. Handling and management procedures were also prescribed. Authorization and monitoring became compulsory.

In West Bengal a pioneering and large scale effort towards bio-medical waste management has been undertaken by the West Bengal State Health System Project II [WBSHSDP II]. The project has introduced a system of waste management to secondary level hospitals.

TATA Consultancy Services [TCS] has been engaged by the WBSHSDP II for providing consultancy services to implement the system of waste management in 100 specified government hospitals.

In January 2003, as a part of the process, DISHA was assigned by the TATA Consultancy Services with the task to help in supervision of implementation of the Government of West Bengal's Action Plan on Health Care Waste Management in the 100* specified health care institutions spread over 16 districts under the Health and Family Welfare Department, Government of West Bengal for six months. These 100 health care institutions have been secondary level government hospitals ranging over district, sub-divisional, state general and rural hospitals (hereinafter abbreviated respectively as DH, SDH, SGH and RH).

[* Actual number of hospitals in operative condition was 97. Binpur RH in East Midnapore, Hura RH in Purulia and Domkal RH in Murshidabad were fully/partly inoperative in the period and have been left out of this report.]

DISHA has been campaigning for safe disposal of bio-medical waste since 1996. A number of studies and consultations have been undertaken by DISHA. DISHA is a partner organization of national and international networks on health care waste management.

DISHA is happy to get this opportunity to be of use in the implementation of the health care waste management system in the government hospitals of West Bengal. The job was taken as a scope of learning and given sincere efforts.

The nature of the assigned task suffices it to mention that the period of six months had been too inadequate to properly discharge the responsibilities. Appointment and training of the Field Supervisors, regularization and standardisation of their performance through monitoring and evaluation, above all preparing a database of the problems and prospects of each hospital and development of hospital specific action plans to address those deserved at least a full year's effort. At the end of the assignment period the feeling that the job is being left midway unmistakably grips all DISHA workers attached with it.

This report is aimed at indicating both the problems and the prospects of the health care waste management in the hospitals under reference. It is hoped that the concerned people will find it useful.

DISHA dedicates this report to the people who are sincerely striving for safe disposal of health care waste in spite of all odds.

ACKNOWLEDGEMENT

We take this opportunity to thank all the scavenger service and cleaning workers, medical workers, nodal officers in charge of waste management and superintendents of the hospitals covered by this report for their cooperation. The job could hardly be accomplished without their support.

We are thankful to the TATA Consultancy Services for entrusting DISHA with the job. They have furthered the scope for us to look into the realities of medical waste management and work on the same.

We are especially thankful to Dr. A. K. Ghosh, Assistant Director (Project) & Nodal Officer, Health Care Waste Management, for the administrative support, guidance and advice he so generously provided.

THE SYSTEM

A brief outline of the **Action Plan on Health Care Waste Management** developed under the **West Bengal Health Systems Development Project** by the **Department of Health & Family Welfare, Govt. of West Bengal** is as follows –

- In each and every department of the hospital (all wards, outdoor, operation theatre, laboratory etc.) there are to be receptor bins of three different colours (black, red & yellow) depending on the nature of waste generated in the department.
- Each bin is to be internally lined with plastic bags of the same colour.
- General waste (mainly non-infectious items like food refuse, vegetable/fruit peelings, paper etc.) is to be collected in black bags put into black bins.
- All infectious waste (used and soiled bandage, cotton, items discarded from operation theatre etc.) is to be collected in red bags put into red bins.
- Sharp items like disposable syringes, needles etc. are to be cut with needle cutters and put in the 1% bleach solution-containing bin through a sieved bucket for onsite disinfection. After disinfection those are to be collected in a cardboard box which in its turn will be put into a blue polythene bag. This blue bag is to be disposed in red bag kept in red bin.
- Placenta and other tissues are to be collected in yellow bags put into yellow bins.
- 10% bleach solution is to be used as disinfectant in laboratories.
- Larger hospitals (DH, SDH, SGH in Municipal areas) are to have red and black waste collection vats at one corner of their campuses. Red vats are to be fully secured. The cleaning staffs are to separately dispose the black bags (with general waste) in the black vats and the red bags (with infectious and hazardous waste) in the red vats at regular intervals.
- The larger hospitals are to have scavenging service (contractor) workers who are officially responsible to take charge of the waste when it comes out of the wards and facilities and finally deliver those into the vats.

- The scavenging contractors do also have responsibilities to maintain general cleanliness of the hospitals, cleaning of the hospital compound, arrange gardening in the compound and provide security arrangement at the hospital gates to prohibit stray animals and restrict visitors inside the hospital building.
- In these larger hospitals infectious waste containing red bags are to be treated in sterilizing devices (autoclave/microwave) in time to turn the infectious waste into general waste. Human tissue waste collected in yellow bags is not to be treated. Local municipality is to haul the waste separately from vats in hospital campus through special carrier vehicles to dispose the general waste in sanitary landfills and the infectious waste in constructed burial pits.
- Smaller hospitals (RH in Panchayat areas) are to dispose the infectious waste in specially constructed pits and the general waste in trenches within their campus.
- In rural hospitals, the departmental staffs are to conduct all the waste management activities.
- Cleaning staffs are to be provided with personal protection equipments like rubber gloves, gumboot, plastic apron, and mask.
- Trainings are to be conducted for proper implementation of the Action Plan.
- Stress is given on reducing and, where possible, reusing the waste materials.
- Every hospital is to have a Task Force under the leadership of the hospital superintendent.
- Every hospital is to obtain authorization from the West Bengal Pollution Control Board (WBPCB) in compliance with the rules.

THE TASK

The assignment included –

- I. Supervision and monitoring of the various activities involved in the Health Care Waste Management (HCWM) like segregation, collection, on-site transportation, on-site storage, on-site disposal, off-site disposal etc in the selected hospitals through Field Supervisors appointed for each of the 15 identified zones.
- II. Providing assistance to the hospital authorities to institutionalize the HCWM system and ensure strict adherence of the provisions of the Action Plan.
- III. Following up the status and progress of procurement of materials required for HCWM for those hospitals where the initial procurement is yet to take place. For the hospitals where the procurement is already done, the FSs shall assist the hospital authority to ask for the required material from the CMOH office in advance after examining the stock position for un-interrupted implementation of the HCWM in these hospitals.
- IV. Following up the status and progress of the construction of storage vat, campus pit and burial pit, whichever is applicable, for those hospitals where the same has not yet been constructed and will follow up with the hospital authority on regular use of the above facilities by the hospitals where such facilities are already in place.
- V. Following up with the Superintendents (DH/SDH/SGH) and Block Medical Officer Health / Medical Officer In-charge (RH) to regularise the reporting practice on HCWM to the concerned authorities viz. the DM&CPM, the CMOH and the Project Management Cell in Kolkata.
- VI. Submission of monthly status reports on all the above tasks for all the project hospitals throughout the duration of the assignment in the format to be provided by TCS.
- VII. Preparation and submission of one Final Report comprising the comparative status of implementation of Action Plan in all the project hospitals (between January 2003 and June 2003), improvements resulted during the course of the assignment, and the updated overall status at the end of the term of service.

MODE OF IMPLEMENTATION

The following measures were taken by DISHA to accomplish the above tasks –

- A. Appointment of one Chief Coordinator and two Assistant Coordinators to centrally supervise the implementation process.
- B. Appointment of 15 Field Supervisors (FSs), one for each of the 15 identified zones to locally supervise the implementation process.
- C. Training of the FSs and equipping them with necessary Govt. notifications, orders and directions necessary to supervise running of the system.
- D. Providing every FS with a roster of visits to be paid to hospitals under his purview and the reporting format.
- E. Helping to install the system and to make it operational in hospitals where the same had not yet started.
- F. Awaring and motivating the hospital staff to adhere to the BMW management system.
- G. Providing demonstrative and on the job training to the hospital staff as and when necessary together with persuading the hospital staff to discharge their duties towards BMW management.
- H. Helping the hospital authorities to identify deficiencies and problems in running the system.
- I. Identifying and working on linkages to ease out bottlenecks regarding procurement of materials, municipal services, digging of trenches, construction of campus/burial pits and obtaining authorization from WBPCB.
- J. Developing a regular system of monthly reporting on the status of BMW management in each of the hospitals to TCS pointing out the good and bad practices, achievements and set backs.
- K. Meeting regularly with TCS for stock taking.
- L. In the event of any emergency situation DISHA took effort on the one hand to solve the problem locally and reported the matter to TCS on the other.

THE TEAM

Central Coordination

Sasanka Dev	<i>Project Director</i>
Pradip Chatterjee	<i>Project Manager/ Chief Coordinator</i>
Supratim Lahiri	<i>Assistant Coordinator (Field)</i>
Ajoy Roychowdhury	<i>Assistant Coordinator (Data and Graphics)</i>

Field Supervisors

Zone

Shyam Gupta	<i>North Bengal Hills</i>
Sanjay Banerjee	<i>North Bengal Plains</i>
Dipak Sil	<i>Jalpaiguri Area</i>
Tapas Roy	<i>Coochbihar</i>
Kaushik Saha Roychoudhury	<i>North Central</i>
Pijush Das	<i>Malda</i>
Sahadeb Dhar	<i>Murshidabad</i>
Karunamoy Mukherjee	<i>Birbhum</i>
Debasish Sarcar	<i>Burdwan West</i>
Dulal Dutta	<i>Purulia</i>
Debasish Kar	<i>Bankura</i>
Rabindra Nath Bhattacharya	<i>South Central</i>
Somenath Ghosh, Pritish Mukherjee	<i>Hoogly & North 24 Parganas</i>
Supritim Das	<i>Midnapur</i>
Subhendu Maiti	<i>South 24 Parganas</i>

OBSERVATIONS

□ On Achievements

The larger (DH, SDH, SGH) and the smaller (RH) hospitals are reported separately since the HCWM systems followed in those two categories of hospitals are somewhat different in some aspects (as described in the 'System' chapter). Separate reporting also enables a comparative assessment of the two categories of health care institutions.

The progress registered on different items related to Health Care Waste Management in the period under report is as in the following –

Training: Out of the 100 hospitals 97 were covered by training up to 30.06.2003 whereas 54 were covered as on 01.01.2003.

Observation: Many of the hospitals have been covered through central training programs. There is a need for hospital specific participatory training of the concerned staff in each hospital. Centrally/regionally organized training fails to address specific problems typical to a particular hospital and lacks the active participation of the hospital staff. It is further felt that off the job training is to be supplemented with on the job training and necessary follow-ups.

Segregation: The health care waste management system developed by WBSHSDP II has **4 segregation categories with colour of bags/bins Black, Red, Yellow and Blue**. Where no bag or only one colour bags/bins are supplied, category is mentioned as – **0** or **no** segregation. In other cases **2** or segregation into **two** categories, **3** or segregation in **three** categories and **4** or segregation in **four** categories have been mentioned where bags/bins of 2, 3 and 4 colours are used respectively. There has been remarkable improvement in segregation categories attained by the hospitals under monitoring during the period.

In the **30 larger hospitals**, i.e., **District, Sub-Divisional and State General Hospitals** the improvement registered was like this –

Number of hospitals with **zero or no segregation** reduced from **3 to 2**.

Number of hospitals under **2-segregation** category reduced from **5 to 1**.

Number of hospitals under **3-segregation** category reduced from **12 to 6**.

Number of hospitals under **4-segregation** category shot up from **10 to 21**.

In the **67 Rural Hospitals** the improvement registered was –

Number of hospitals with **zero or no segregation** reduced from **30 to 4**.

Number of hospitals under **2-segregation** category rose from **15 to 16**.

Number of hospitals under **3-segregation** category rose from **16 to 40**.

Number of hospitals under **4-segregation** category increased from **6 to 7**.

Observation: Behind this formal and somewhat hopeful picture lurks the fact that mixing of general and infectious waste, to a more or less degree, has been a general feature. Since segregation of different categories of waste is most important in hospital waste management the problem deserves utmost attention. Awareness, motivation, training, disciplinary measures – every area should be probed and utilised to tackle the problem.

Regular and timely requisition of materials and their supply have also been a problem area in a number of cases.

Sharp Disposal: During the period improvement was achieved on sharp disposal as well, the trend being stronger in the rural hospitals. 12

In the **30 larger hospitals**, i.e., **District, Sub-Divisional and State General Hospitals** number of hospitals **using needle cutters** increased from **22 to 24**; and the number of hospitals having **sharp decontamination units** increased from **20 to 27**.

In the **67 Rural Hospitals** use of **needle cutters** increased from **27 to 42** hospitals; and the number of hospitals having sharp decontamination units leaped from **8 to 31**.

Observation: In almost 40% of the hospitals, the positive practice of using of glass syringes and non-disposable needles have been experienced. These are sterilized and reused. Almost all the hospitals are provided with such sterilizer or heater to boil water. This ultimately reduces the sharp waste to a great extent.

Supply and maintenance of needle cutters has been a problem in a number of hospitals. In a few hospitals the nursing staff has been very particular in using needle cutters. But in a number of hospitals the use of needle cutters was not regular or proper.

In the case of sharp decontamination units there is a problem of supply of proper bleach solution containers with matching sieved buckets. But hospitals could easily use existing containers (bowls for example) to keep bleach solution and used sharps. Sharp decontamination could progress to a much greater extent with a little initiative on the part of the hospital authorities/staff.

Separate management of sharps suffers from a negative impact due to the system itself. First separately collecting and decontaminating the sharp waste and then putting this separated and treated waste into the red bag containing untreated mixed bio-medical waste negates the rationale of the system and thus de-motivates the staff.

Dedicated Trolley: The period under review witnessed anomalous results regarding the use of dedicated trolley. 13

In the **30 larger hospitals**, i.e., **District, Sub-Divisional and State General Hospitals** number of hospitals **using dedicated trolley** reduced from 17 to 13.

In the **67 Rural Hospitals** use of **dedicated trolley** increased from **14 to 20** hospitals.

Observation: Proper supply and maintenance of trolleys have been a big problem. In some hospitals only uncovered trolleys were supplied and some received only covered ones. In some cases the sizes of the trolleys were too big to inhibit their use. A rural hospital received 38 oversized trolleys. In a few cases trolleys could not be used due to inaccessibility of the vat/pit.

Another problem has been the reluctance of the staff to move two trolleys in place of one to collect waste from wards/facilities.

Personal Protective Equipments: Anomalous result was also registered regarding use of PPEs in this period.

In the **30 larger hospitals** it was noted that the number of hospitals where **PPEs were used** decreased from **24 to 13**.

Whereas in the **67 Rural Hospitals** the same increased from **17 to 37** hospitals.

Observation: The cleaning staff are generally not enough aware of the hazardous nature of the job they attend to. Traditionally they were managing the job without or very little PPEs. The difficulties in wearing the PPEs in a hot and humid weather adds to their reluctance.

It appears that the negative situation involving use of PPEs in the larger hospitals has been largely due to the reluctance of the scavenging contractors to supply PPEs and enforce their use by the staff under them. Little monitoring by the hospital authorities help sustain the irregularity.

In the case of rural hospitals the government supply has been irregular in the sense that all items were not in supply together and that the supplies,

more often than not, were not in time. Lapse in proper and timely requisition was also a problem.

House Keeping: Among the **30 larger hospitals** the number of hospitals with **poor house keeping standard** remained stationary at **2**; number of hospitals with **medium house keeping standard** fell from **23 to 20**; and number of hospitals with **good house keeping standard** increased from **5 to 8**.

Among the **67 rural hospitals** the number of hospitals with **poor house keeping standard** fell from **16 to 9**; the number of hospitals with **medium house keeping standard** increased from **37 to 46**; but the number of hospitals with **good house keeping standard** decreased from **14 to 12**.

Observation: The hospitals were generally cleaner and kept up or improved upon their standards of house keeping. In the rural hospitals the trend being much better than in the larger ones.

It was felt that awareness building on the prescribed system of management of hospital waste should be linked with awareness campaigns on general cleanliness.

Record Keeping: Keeping daily **accounts of the bags** used in waste management were introduced mainly in the larger hospitals. It was observed that out of the **30 larger hospitals 19** kept regular records.

Observation: The system of record keeping initiated in the hospitals is partial in that it pertains only to accounting the number of bags used by various wards/facilities in a hospital. This record keeping should be linked with the stock status of bags lying with the storekeeper. Records should also be kept of the frequency of clearance by the municipality and the number of bags taken in each clearance.

Visitor Restriction: Restricting visitors to the visiting hours and **controlling their numbers** through introduction of visitor permit cards were also introduced mainly in larger hospitals. It was observed that the number of hospitals practicing visitor restriction decreased during the period from 29 to 26.

Observation: Visitor restriction in some hospitals does not exist at all. In very few of larger hospitals the security guards were in uniform or had their identity cards displayed.

Construction of Vats for larger hospitals: Number of hospitals having vats for temporary storage of hospital waste remained stationary in the period. Out of the 30 larger hospitals the number of hospitals having vats remained fixed at 26.

Observation: Vats are not applicable for the rest 4 hospitals as they have campus pits for daily onsite disposal. This makes 100% achievement.

But in a number of cases the condition of vats were very bad. There were construction defects like lack of shades or wire mesh. Most of the vats do not have proper drainage system. Majority of vats did not have locks. Sometimes they were overfilled with garbage that spilled around.

Some of the vats were not used at all as the municipal facilities are not provided and the contractors directly dispose of the waste. These have been turned into unofficial public urinals.

Construction of Burial Pits for larger hospitals: Out of the 30 larger hospitals the number of hospitals having burial pit increased from 10 to 17 during the period.

Observation: It was learnt that in some cases the fund allotted for construction of burial pits in the last financial year could not be utilized and had to be returned.

It was seen almost without exception that the burial pits had not been constructed to specification.

Weak linkages with construction agencies and coordination lapses resulted in delayed implementation in a good number of cases.

It is further observed that to prevent burial pits from being rapidly filled up treatment facilities (autoclaves) should be extended to all hospitals. Treatment facilities may reduce the bulk of bio-medical waste to general waste and only human/anatomical waste may be left to be dumped in burial pits.

Because of wrong site selection local residents in some cases have objected disposal of waste in burial pits.

In majority of cases the municipality did not provide a dedicated transport to haul the bio-medical waste.

Digging of Trench for rural hospitals: During the period out of a total of 67 the number of rural hospitals having trench increased from 0 to 53. These trenches are constructed inside the hospital compounds. Hospital authorities are responsible to arrange digging of trenches.

Observation: A number of hospitals reported of not receiving fund for the job. In the absence of campus pit a large number of hospitals dumped all their waste in trenches. This further damaged the motivation of the staff for waste segregation. It was seen that majority of the trenches did not have any fencing around them and provided free field for scavenging animals. Waste kept in plastic bags hindered composting and quickened filling up of trenches leading to a space problem to locate new trenches. In a few hospitals the problem is addressed by open burning of the waste illegally. This spreads pollution to the neighborhood.

Construction of Campus Pits for rural hospitals: The number of rural hospitals having campus pits increased from 9 to 19 in the period.

Observation: Not even 1/3rd of the hospitals did have campus pits for dumping their infectious/bio-medical waste. Bio-medical waste in the hospitals without campus pit is dumped along with general waste either in trenches or in some undesignated place. This has a profound negative effect on motivation of the staff to segregate the bio-medical waste from the general waste at the generation point. It was learnt that in some areas fund released for construction of campus pits had to be returned, as the same could not be used within the financial year. This shows lack of initiative and coordination.

It is further observed that unless bio-medical waste other than human/anatomical waste is treated to be reduced to general waste, campus pits would be filled up very quickly. Some kind of cheap but effective treatment facility should be opted for rural hospitals so that only human/anatomical waste is dumped in the campus pits.

Task Force: Constitution of Task Force for HCWM progressed from 17 to 26 in larger hospitals while in the case of rural hospitals the figure climbed from 13 to 50.

Observation: In very few of the hospitals the task force was really active and rose to the occasion. Task force meetings were also irregular. Given the importance of the task force in implementation of HCWM the situation warrants immediate attention.

Authorisation from WBPCB: Number of hospitals having authorization from the West Bengal Pollution Control Board progressed from 21 to 23 in the case of larger hospitals and from 2 to 11 for rural hospitals.

Observation: The process of obtaining authorization from the WBPCB has been somewhat tortuous and inhibitive. The system should be simplified. It is felt that forms should be collected centrally and distributed to district level authorities for filling up the same in consultation with the superintendents of concerned hospitals and then the fees along with the filled in forms are to be deposited by the district level authorities to banks (which again are located at district headquarters).

□ **On Strengths and Weaknesses of the System**

The strengths:

1. The conceptualization and development of a low-cost hospital waste management system for the secondary level hospitals [District, Sub-divisional, State-general and Rural] with an incremental approach provides, in the given situation, a common workable policy direction and implementation module.
2. The West Bengal Government Health System provides a centrally administered network of hospitals throughout the state, thus facilitating scope of common policies, decisions and implementing initiatives. It provides considerable scope for resource and experience sharing. It also augments the scope for state and district level coordination with other governmental and non-governmental departments/agencies for administrative and technical inputs.
3. The common administrative set up in the hospitals facilitates the scope of common policies regarding role assignments for system implementation.
4. In the hospitals under the job the material part of the system has been largely in place, thus making the hospital waste management process constantly on the agenda of the operators at all levels.
5. The operators, i.e., sweepers, scavenger service workers, ward masters, nurses, doctors, hospital superintendents, have been more or less aware of the HCWM system.

The Weaknesses:

1. ***Attitudinal Hurdle*** – It is observed that the ground level operators are more prone to take the HCWM system as something prescribed for them than something of their own. The result has been inadequate and improper utilization of the system.

It was common experience to encounter responses like ‘who is to attend to so much extra job?’ ‘we are too busy to attend to the new discipline’ etc. They still lack awareness that their own health hazard reduces through proper implementation of the HCWM. Moreover the inertia of their habit prohibits them to accept newer methods of disposal.

This gives rise to the necessity to review modes of system introduction and operation and strengthen the same through participatory method whereby the hospital staff would be aware of their own needs and also be in a position to play a role in related decision making.

2. ***Delay in Policy Decisions*** – Policy decisions regarding specification of materials, designs of campus/burial pits and modes of constructing the latter were taken almost at the fag end of the project giving rise to anomalous situations. [Government Order at Appendix-II] This had a profound negative effect on HCWM operators by rendering the system defective and/or incomplete.

Mismatched bags and bins, oversized and wrong types of trolleys, wrong pairs of gumboot are some common examples of materials supplied prior to the standardization of specification.

Hospitals without campus/burial pits either finally dumped all their waste (general and biomedical) together or disposed the biomedical waste in some undesignated place. The staff engaged in HCWM got demoralized seeing the purposelessness of all their efforts towards segregated collection and disposal of biomedical waste.

3. ***Lack of Leadership*** – More often than not it was experienced that hospitals lacked a team leader in waste management.

Hospitals, where anyone of the senior staff (superintendent, ward master, social welfare officer etc.) took initiative to lead in the HCWM system implementation, generally showed better results than where there were none.

It is necessary to identify and promote leadership capabilities in each hospital and cannot be solved by issuing formal government orders.

4. ***Lack of Coordination*** – The general experience, with a very few exceptions, has been that the HCWM workers lacked in coordinating their activities both in house and out house. It was strongly felt that the status of HCWM in the hospitals could be considerably bettered if hospital specific plan was evolved through a participatory process with proper linkages for materials supply and construction of disposal facilities.

Placements of bins were improper in many hospitals. Instead of placing the red bins either inside or adjacent to the indoor nursing stations those were placed

in the corridors, i.e., away from the generation points of the infectious waste that those were to receive. As a result visitors dumped general waste into those and the bio-medical waste was dumped in the nearest available place.

A number of hospitals retained the old system of bedside bowls. These bowls, improperly used by the visitors and sometimes even by the medical workers, add to the problem of waste management.

Requisition of materials both in-house and out-house have been irregular in most of the hospitals. Even if requisitions were made the supplies were inordinately late. Sometimes the supplied materials were defective. Mismatch between bags and bins, wrong sizes and types of trolley, wrong pairs of gumboot are some of the examples.

5. ***Learning to live with a system that does not operate*** – Placement of waste management implements in the hospitals served well to make the system palpable to the players, but the same had a counterproductive effect when not utilized properly.

Placement of the waste management materials [bags, bins etc.] in the hospitals initially attracted the attention of all concerned and thereby created some favourable condition for sensitizing the concerned health care and cleaning workers. But, thanks to the incomplete and improper implementation of the system due to various reasons, at many hospitals the concerned health care and cleaning workers started learning to live with the installed facilities by under and/or misutilising those.

6. ***Excessive use of Plastic Bags*** – Lining each and every bin internally with plastic bags, which are changed once a day and in some cases even more than once a day, generates huge amount of plastic waste.

Plastic bags used in bins while providing scope of better and leak proof handling of waste themselves add to the quantity of waste and also inhibit biodegradation of contained waste when buried. Sometimes the situation becomes so ridiculous that the bag turns out to be a bigger waste than its contents. Particularly in rural hospitals, where waste is disposed in trenches/pits inside the campus, space for new trenches/pits is running out. At least the general waste should be composted and the old trenches reused.

Since there is no legal compulsion, the use of black bags for general waste may be stopped. This will immediately reduce the number of waste bags

produced daily to half with consequent reduction of expenditure and facilitation of composting.

It was also observed that, the compulsions imposed by the bio-medical waste (Management & Handling) Rules notwithstanding, save and except a few locations red bins in most places do not require plastic bags. This should be taken up with the legal authorities.

Of course, doing away with bags will call for proper handling, cleaning and use of PPEs.

7. **Administrative Weakness** – The administration suffered from a number of organizational shortcomings:

I. **Failure in Assigning Responsibilities** – It was generally observed that the hospital authorities failed to formally and properly assign roles and responsibilities regarding HCWM to their staff.

Identifying the right person to entrust responsibilities and to back up the process with a conducive and matching distribution of duties remain an important problem area. This resulted in anomalies in implementation, absence of monitoring and follow-up as well as failure to address bottlenecks and constraints.

II. **Lack in Fixing Up Responsibilities** – It has been a common experience that fixing up responsibilities for lapse in HCWM were not done through proper monitoring.

The system of fixing up responsibilities in case of failures to or lapses in waste management was nowhere to be observed. This helped develop a ‘don’t care’ attitude of a good number of operators at various levels.

III. **Failure in Filling Up Vacancies** – Abnormal delay in filling up vacancies on the one hand and failure in rationalizing the staff lay out gave rise to anomalies regarding utilization of human resources.

In a number of hospitals posts of cleaning and management staff lay vacant overburdening the available human resources leading to their improper utilization.

IV. Problems in Contract Finalizations – Contract finalization with scavenging contractors involves a number of problems like delay, going for impractically low or high bid prices etc.

Work of the scavenging service workers was seen to be affected in a number of cases due to delay in contract finalisation.

It was also observed that to win the bid sometimes the bidders quote prices much lower than the minimum amount required to maintain the quality of service. Once the contract is finalized in favour of the lowest bidder he finds himself unable to deliver the services required.

Again in some cases it was learnt that the bidders barred others from the tender and staged up dummy competitors who quoted higher prices to buoy up the contract value.

□ On Problems Encountered

Apart from the above a number of specific problems of the following nature were encountered in accomplishing the assigned job.

- a) Due to delay in execution of the agreement and then the time spent on recruitment of the FSs, actual work on monitoring took off about a month later than the inception of the project period.
- b) Another problem faced was grooming of the FSs through training and developing a system of job evaluation in such a short period.
- c) There was variation in the quality of work of the FSs and the project period was too short to take up a general reorientation programme.
- d) Irregularities in hospital visits and reporting were also observed in the cases of some of the FSs.
- e) In a few places the FSs faced non-cooperation from the hospital authorities/staff.
- f) It was felt that to achieve best possible results the effort should have been equipped with hospital specific action plans from the outset and followed up in later phases to get specific results.
- g) Some policy level and administrative constraints also adversely affected the effort.

It is important to note that the HCWM under WBSHSDP-II in the hospitals under review is now in transition **from one phase to another**. Notwithstanding all the associated anomalies, shortcomings and incompleteness **the first phase has installed the system in the hospitals, the next (second) phase needs to institutionalize it.**

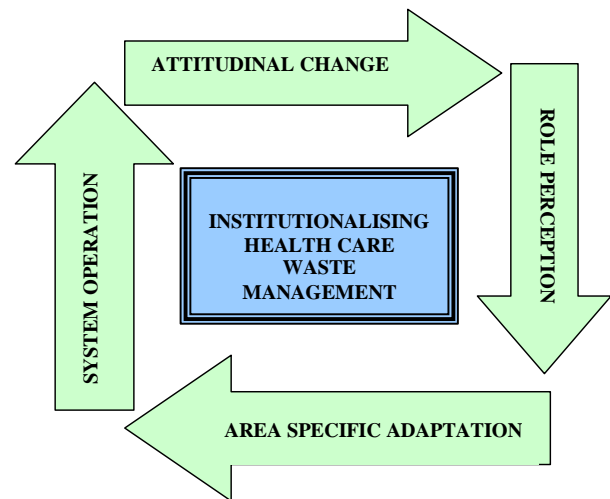
RECOMMENDATIONS

General Approach

The institutionalising or internalising the system will require first and foremost an attitudinal transformation on the part of all the institutional players to take the system as “a system of their own” from “a system prescribed for them”.

The attitudinal change will have to be facilitated and institutionalised by a system of operation that will connect and coordinate all required activities. We already have elements of the system of operation but more often than not the players are not sufficiently conscious of their respective positions in the chain of the system and the entailed responsibility, they are also not clear as to how their respective roles link up with the system. A lot of work has to be done in this sphere right from the hospital level to higher ups.

Another important task is to facilitate hospital specific adaptation of the system. This would require evolving and implementing hospital specific action plan in a participatory manner.



The above tasks will have to be accomplished by keeping the system running. As such an important point in this phase will be to keep the system running and make up for the deficiencies, if any.

Specific Steps

A. Review meetings cum refresher workshops are to be held at each hospital with a view to aware the HCWM workers of the present status of HCWM in respective hospitals and work out specific plan by identifying problems and possible solutions on the one hand and the role of each worker in HCWM. Activation and functioning of the **task force** should be an important agenda.

B. Stress is to be given to make the system run by the hospital workers themselves by imparting both off and on the job training followed by continuous monitoring.

- C.** Incomplete measures in installation of the system (phase-I) are to be identified and completed.
- D.** Nodal areas and linkages in the system are to be identified and all the persons in charge at different levels should be adequately informed in the matter.
- E.** A regular system of reporting from down top wards and review from top downwards is to be developed.
- F.** The administration is to be more agile in filling up vacancies, assigning responsibilities, taking stock of performances and fixing up responsibilities for failures and lapses.
- G.** Non-Governmental organisations should be entrusted for doing external monitoring and providing consultation to the government.

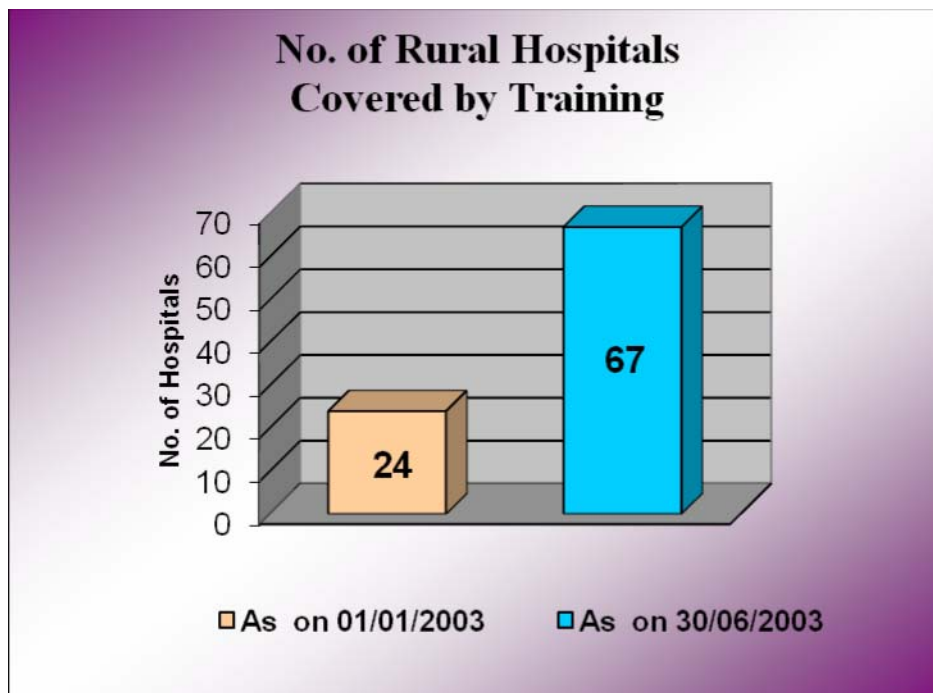
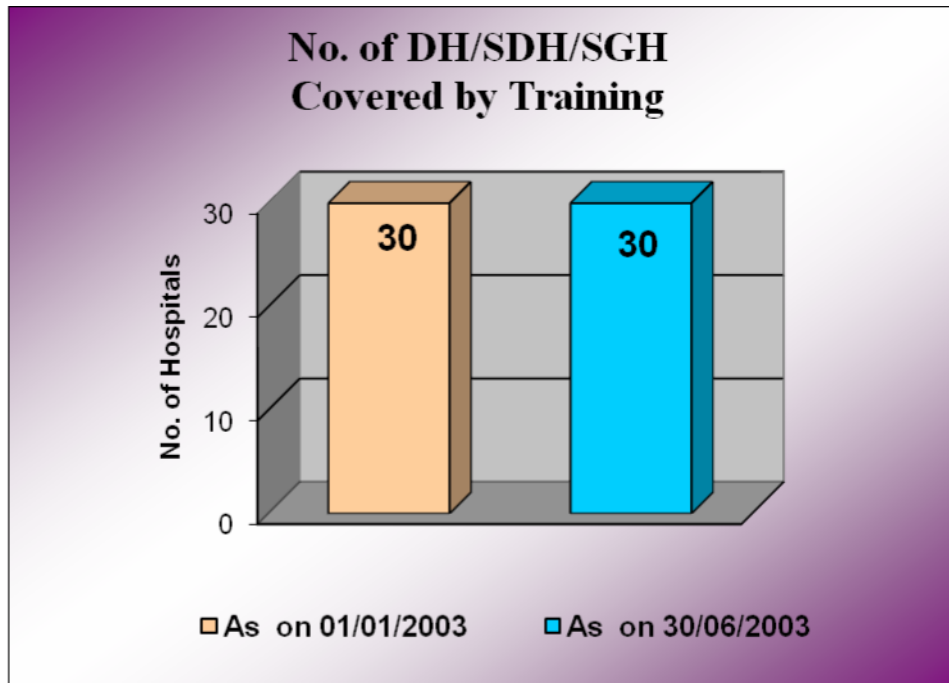
Appendi

Districtwise distribution of assigned health care institutions : -

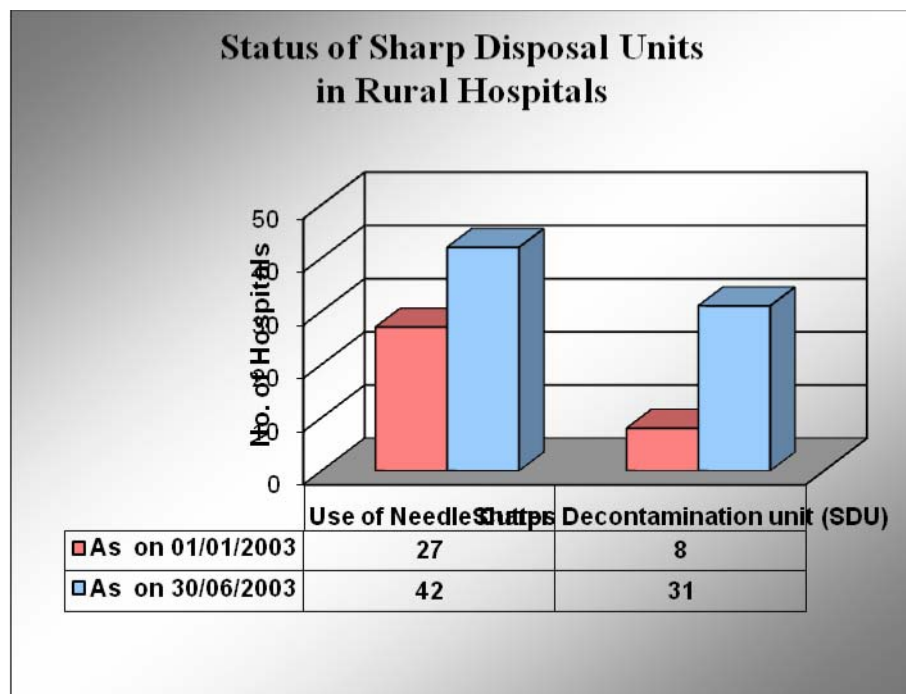
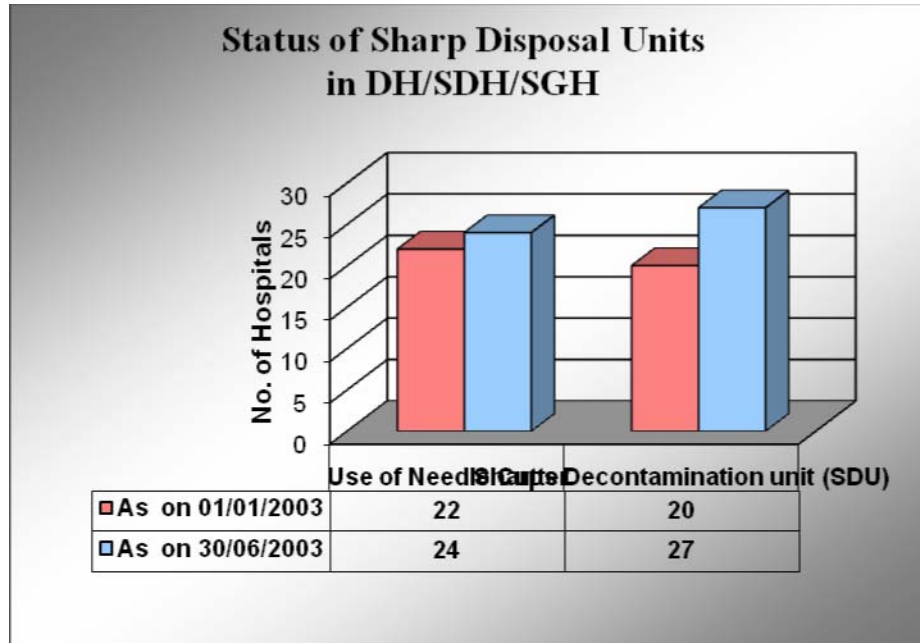
DARJEELING Darjeeling DH Kurseong SDH Kalimpong SDH Siliguri SDH Kharibari RH Naxalbari RH	MURSHIDABAD Beldanga RH Krishnapur RH Amtala RH Khargram RH Sagardighi RH Sadikhandearh RH Islampur RH Jiagunj RH Domkal RH	BIRBHUM Suri DH Bolpur SDH Rampurhat SDH
JALPAIGURI Jalpaiguri DH Mekhlignun SDH Birpara SGH Falakata RH Mainaguri RH Dhupguri RH Mal RH Rajgunge RH	BURDWAN Burdwan MCH Kalna SDH Katwa SDH Durgapur SDH Asansol SDH Memari RH Singot RH Bhatar RH Srirampur RH Harmadhi RH Ballavpur RH Mankar RH	HOOGLY Dhanekhali RH Khanakul RH Tarakeshwar RH
COOCHBEHAR Aliporeduar SDH Bhatibari RH Mathabhanga SDH MJN Hospital (DH) Dinhata SDH Toofangunj SDH Aliporeduar SDH	BANKURA Bankura MCH Bishnupur SDH Khatra BPHC Taldangra RH Raipur RH Kotalpur RH Sonamukhi RH Amarkananda RH	N. 24 PARGANAS Sandeskhali RH Taki RH Serapul RH
N. DINAJPUR Raigunj DH Islampur SDH		S. 24 PARGANAS Canningpur RH Sonarpur RH Joynagar RH Sagar RH Kakadwip RH Mathurapur RH Baruipur RH Muchisa RH Padmerhat RH Amtala RH Raidighi RH
S. DINAJPUR Balurghat DH Gangarampur SDH		PURBA MIDNAPUR Egra RH Bhagawanpur RH Reapara RH Basulia RH
MALDA Malda DH Chanchol RH Gazole RH Harishchandrapur RH Bamangola RH Manikchak RH Habibpur RH	PURULIA Purulia DH Raghunathpur SDH Manbazar RH Bangsarh RH Hura RH Kotshila RH	PASCHIM MIDNAPUR Sabang RH Binpur RH Chandrakona RH Daspur RH Debra RH Garbeta RH Hijli RH Salbani RH Kespur RH

Abbreviations: DH: District Hospital. SDH: Sub-Divisional Hospital. SGH: State General Hospital. RH: Rural Hospital.

ANNEXURE

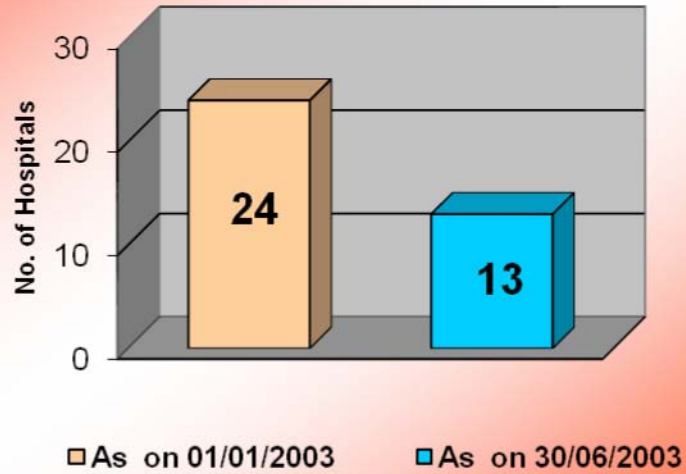


ANNEXURE

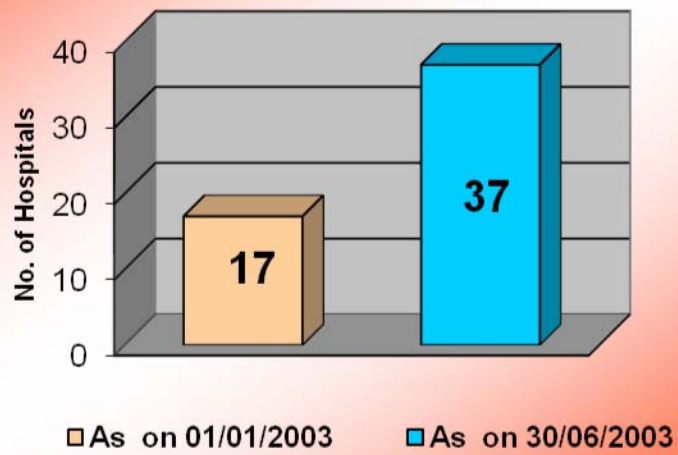


ANNEXURE

**No. of DH/SDH/SGH using
Personal Protective Equipment**



**No. of RH using
Personal Protective Equipment**

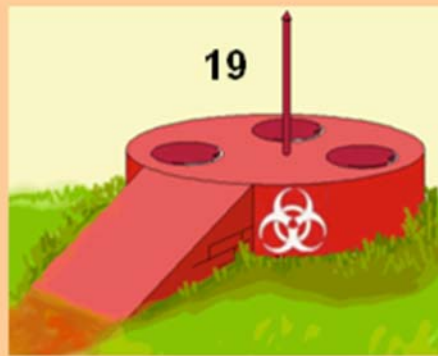


ANNEXURE

No. of Rural Hospitals with Campus Pit



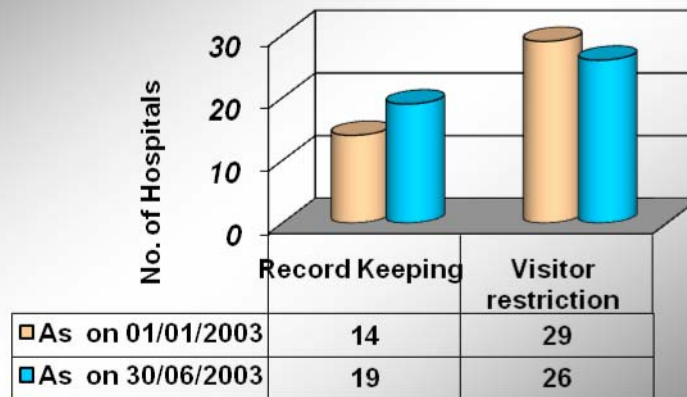
As on 01/01/2003



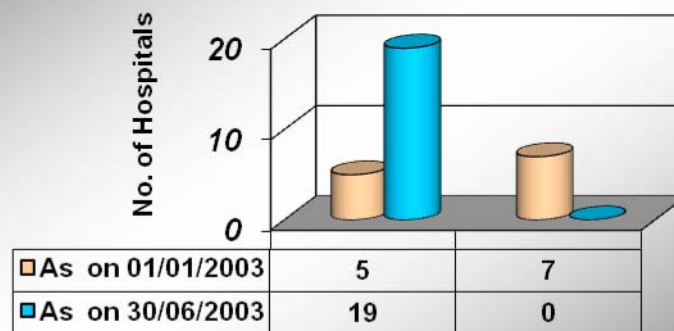
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ANNEXURE

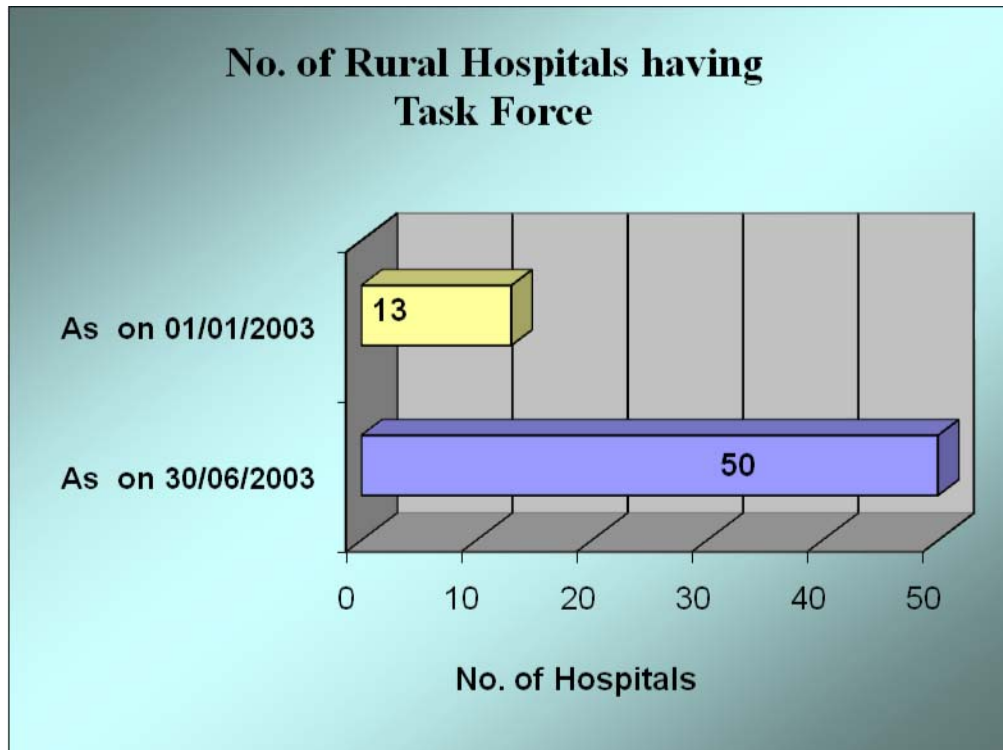
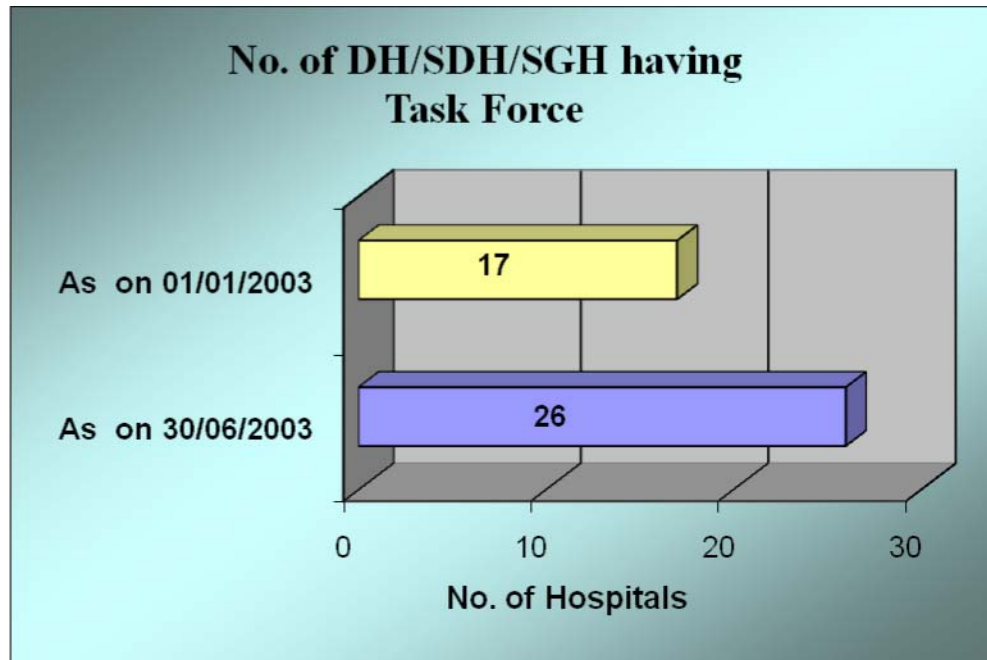
Record keeping & Visitor restriction in DH/SDH/SGH



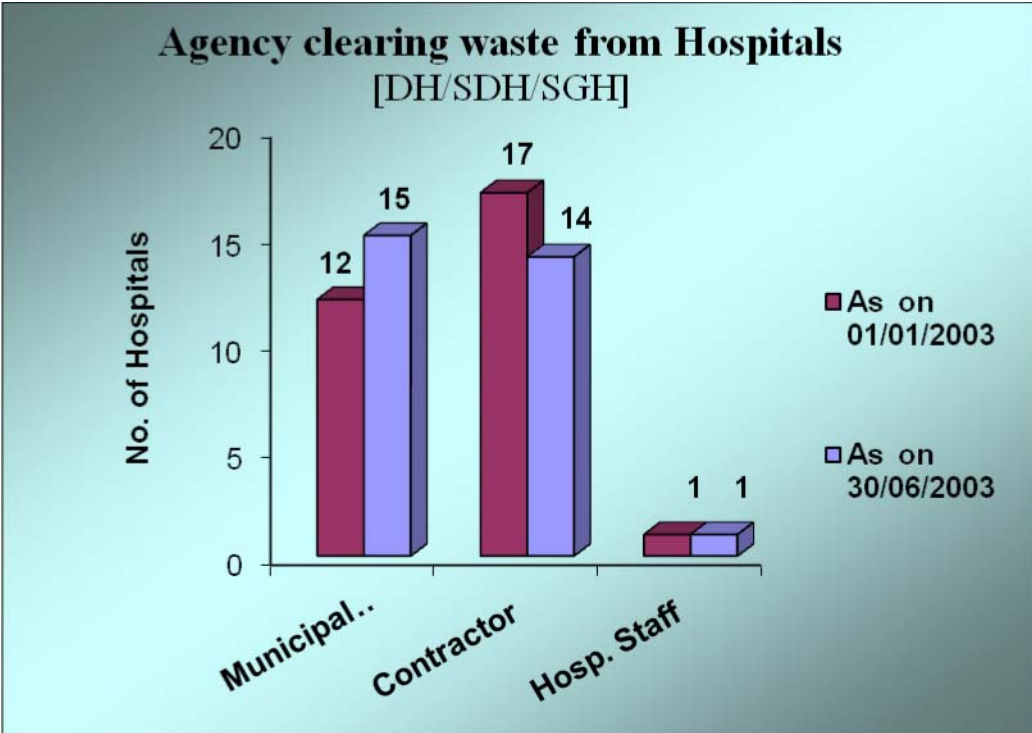
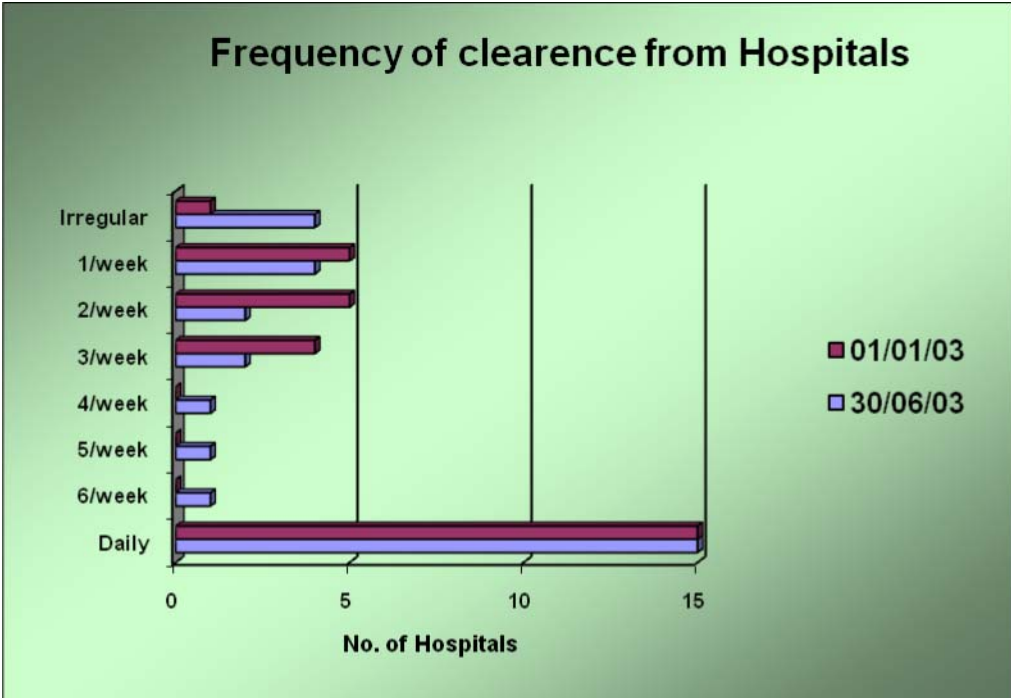
Record keeping & Visitor restriction in Rural Hospitals



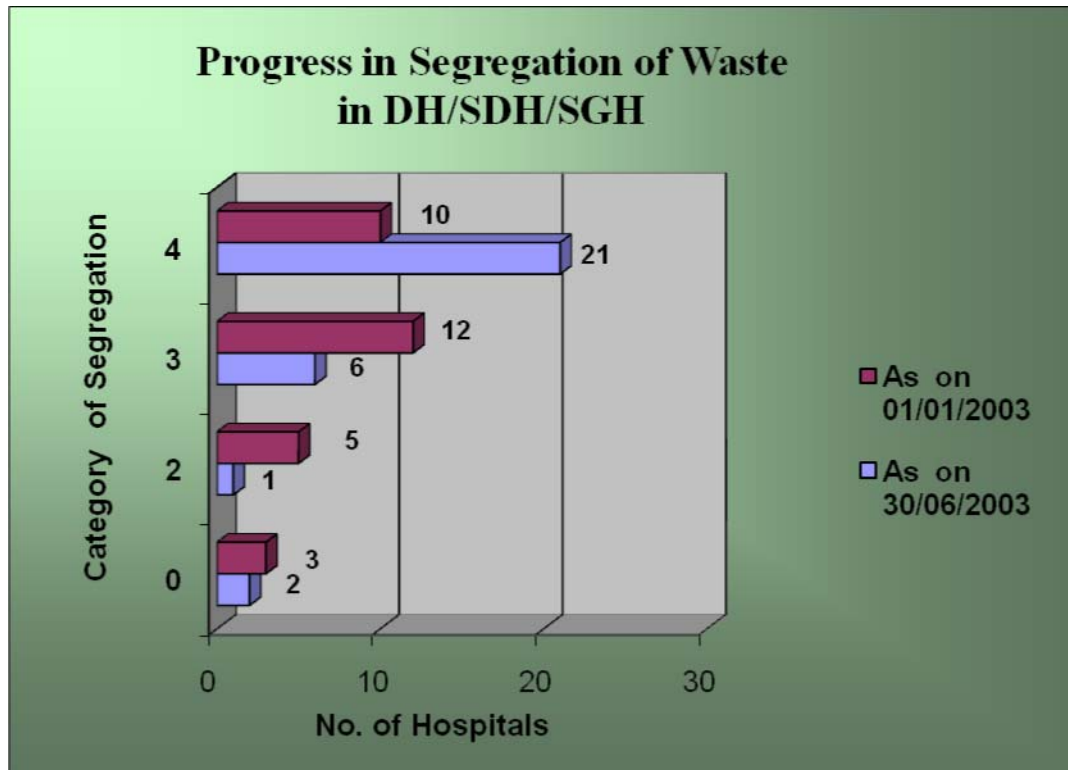
ANNEXURE



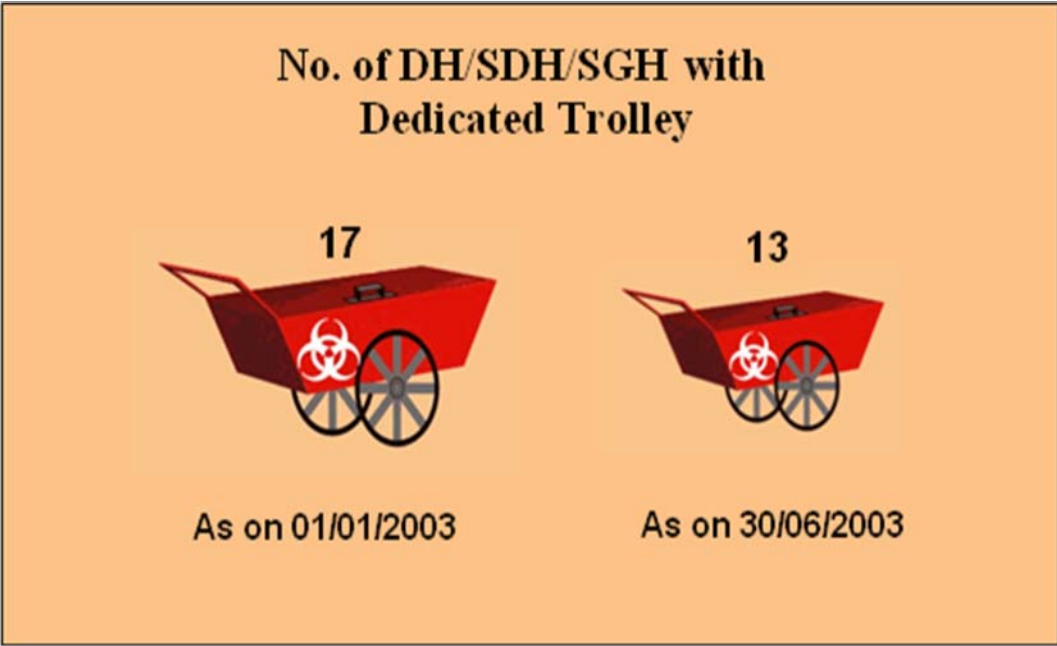
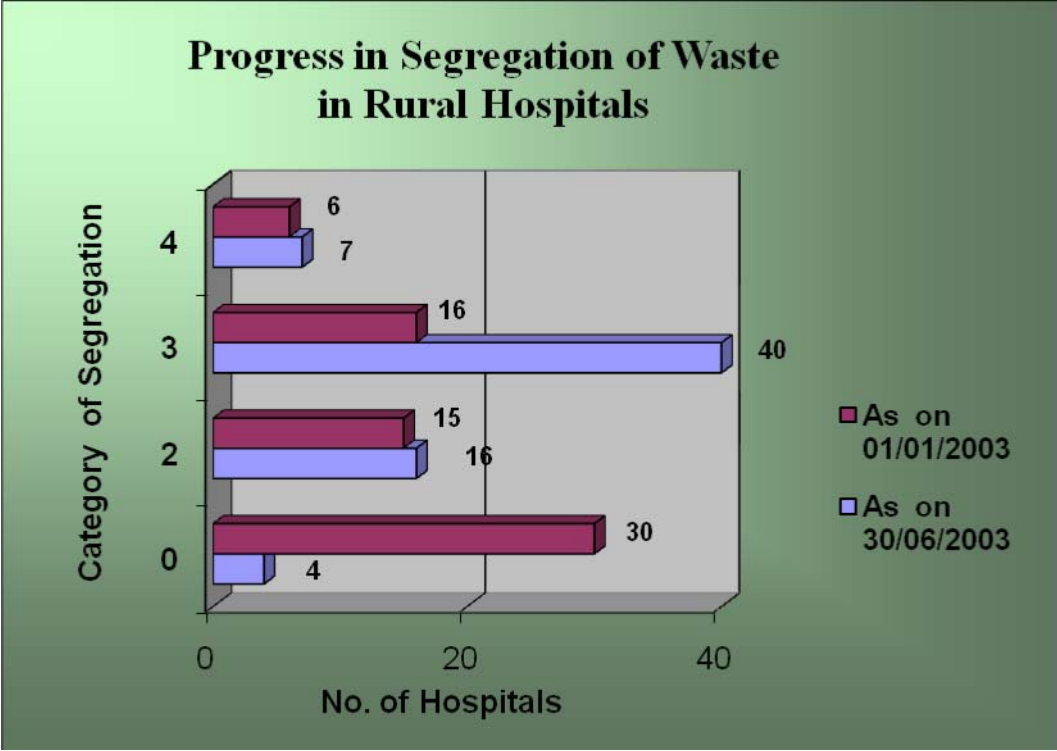
ANNEXURE



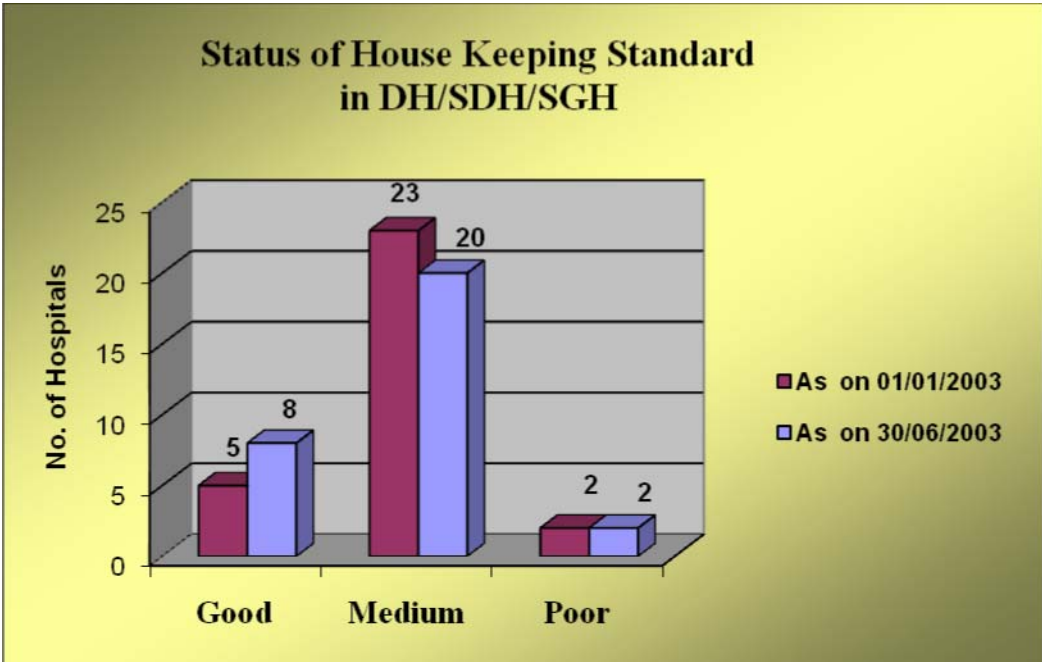
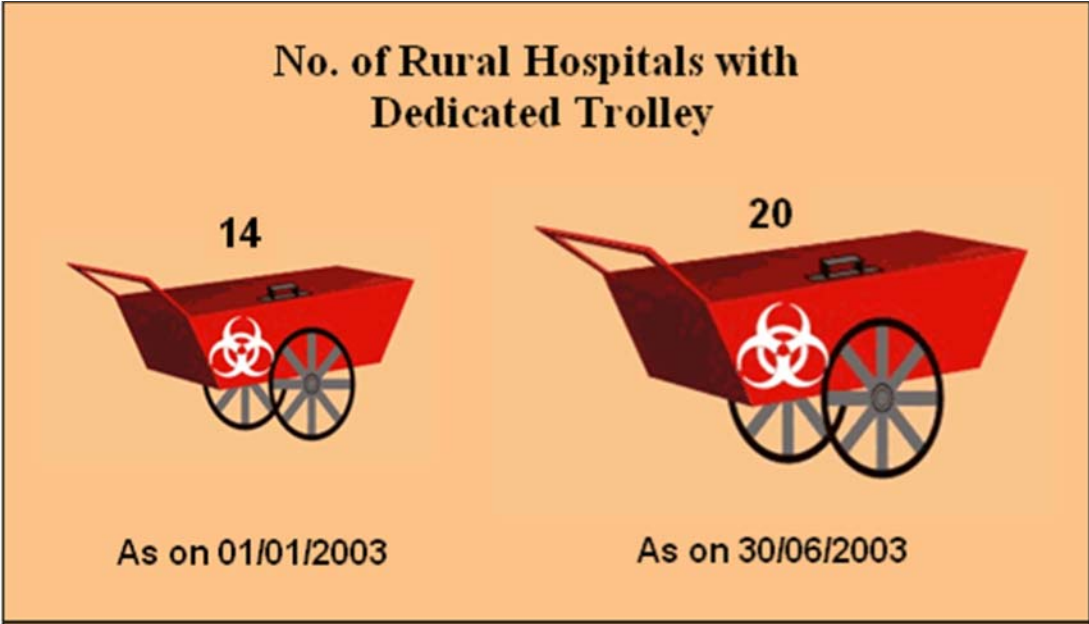
ANNEXURE



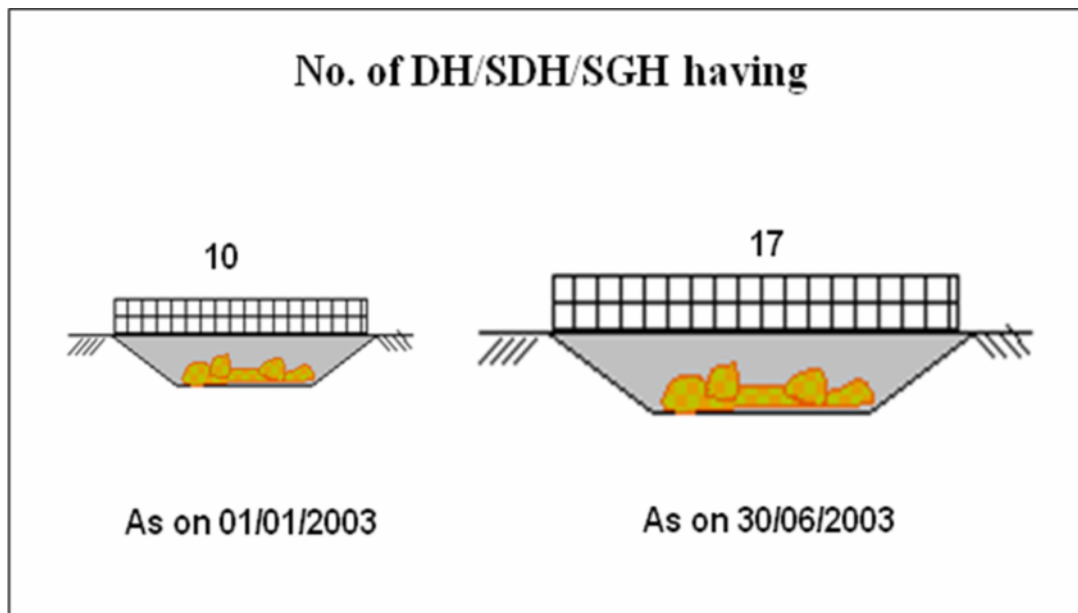
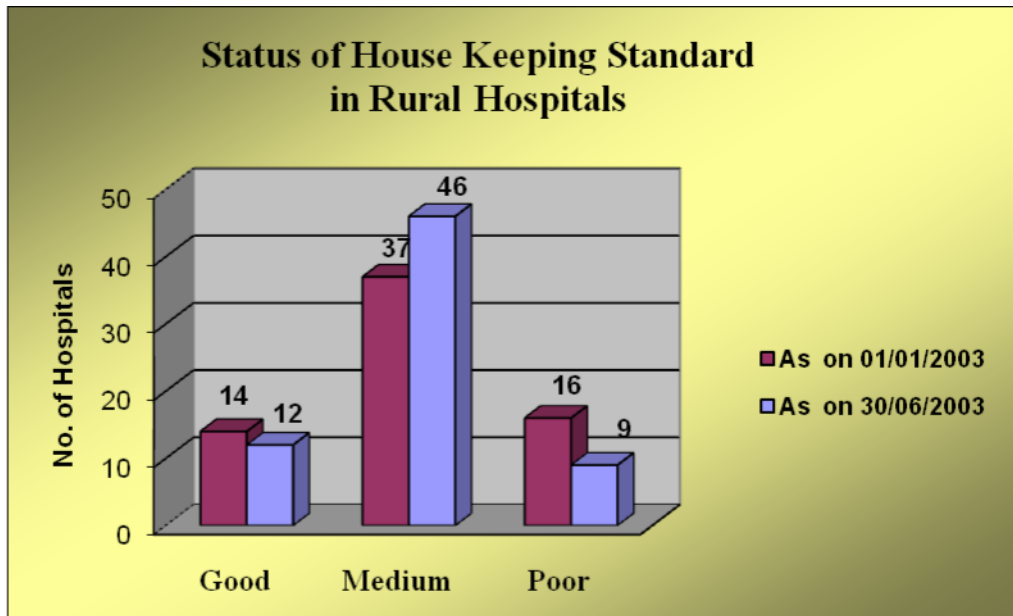
ANNEXURE



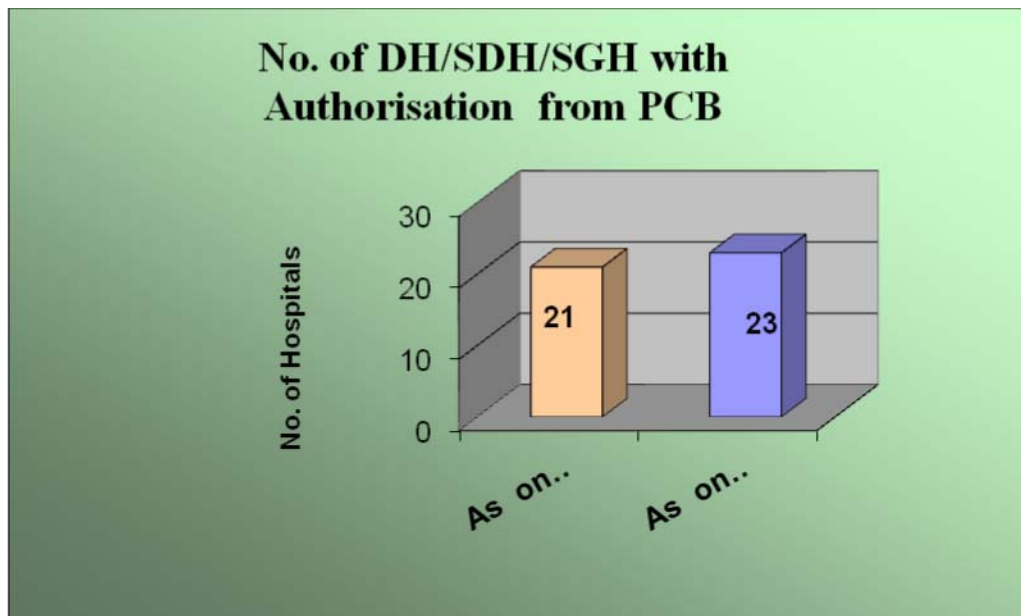
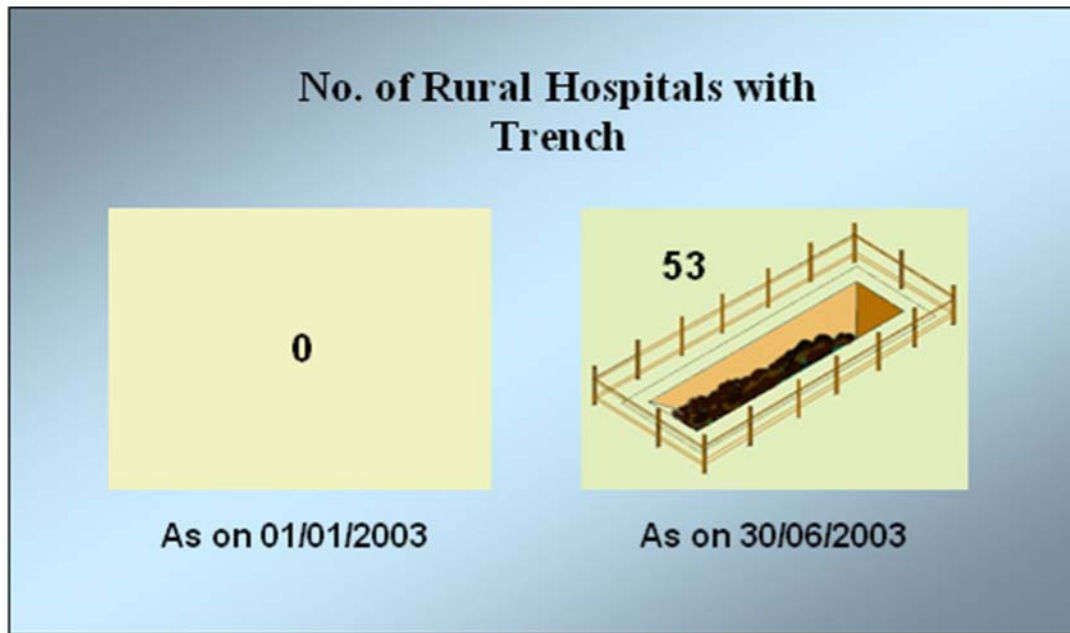
ANNEXURE



ANNEXURE



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