

# **INFECTION MANAGEMENT & ENVIRONMENT PLAN (IMEP) FOR REPRODUCTIVE AND CHILD HEALTH PROGRAMME (PHASE – II)**



Government of India  
Department of Family Welfare  
Ministry of Health & Family Welfare  
New Delhi

**OCTOBER 2004**

## **0 EXECUTIVE SUMMARY**

The Government of India's national family program has been in place since the 1950's and was expanded to include aspects of maternal & child health beyond family planning, child immunization, ante and post natal care and emergency obstetric care.

RCH-II encompasses a number of innovations and reforms. Its development objective is to bring about improved and equitable child health, maternal health and population stabilization through assured, responsive, quality health services, specially in states with low human development indicators.

The main focus of the Infection Management and Environment Plan (IMEP) is to underpin the operations of RCH-II to deliver better health outcomes for the common people while ensuring the safety of the healthcare service providers, which includes many vulnerable groups such as sanitary workers, ANMs. In addition, it serves indicated areas of work to meet World Bank safeguard policies.

The consultants have prepared the IMEP based on desk research, meetings and field visits covering the stakeholders such as Ministry of Health & Family Welfare (MoHFW), Central Pollution Control Board (CPCB), Ministry of Environment & Forest (MoEF), equipment suppliers, Non-Governmental Organisations (NGOs), INCLIN, Development partners etc.

Field Visits to Rajasthan were undertaken by the consultants and various levels of Healthcare Facilities were visited alongwith the relevant state level agencies. The previous experience of evaluating the status of Healthcare Waste Management (HCWM) in 3 states of West Bengal, Karnataka and Punjab was also used.

### **Purpose of the Document**

The purpose of the IMEP is to ensure that all parties recognise that the maintenance of sanitary conditions, use of appropriate disinfection and sterilisation techniques, provision of potable water and clean air for all operations, and nosocomial infection control are the basic infrastructural requirements for delivery of RCH services. These elements are essential to improving the health of patients, preventing the transmission of infections among patients and staff, and reducing hazards for employees, patients and the neighbouring community. In this, effective health care waste management will result in improved occupational health and safety, more effective coordination across public and private sector, trained and aware staff, and a cost-effective management system.

### **Legal & Institutional Frame Work**

The Environment Protection Act (EPA) of 1986 laid down the framework for all subsequent legislations pertaining to Environment, in the country. India together with Denmark were among the first countries in the world to have such legislation in place.

Government of India (GoI) under its EPA (1986), passed the Biomedical Waste (Management and Handling) Rules in 1998 and subsequent amendments. The rules form the legal framework for the collection segregation, transportation, treatment & disposal of Biomedical waste, throughout the country. The SPCBs (State Pollution Control Boards) and PCCs (Pollution Control Committees) are empowered to validate & modify the Bio-Medical Rules based on the local conditions within the broad framework of the legislation. The SPCBs (in states) and pollution control committees (PCCs) (in Union Territories) are monitoring the compliance of the rules in the respective states. The capacity of the SPCBs and PCCs for effective monitoring is slowly building up.

MoHFW, GoI has laid down the National Guidelines on Hospital Waste Management in March 2002, which apart from covering the aspects included in the Bio-Medical Rules, also lay down recommendations for safety measures, training, management & administration functions. The Govt. of India will endeavor to achieve a compliance of the guidelines at all levels of healthcare facilities to the extent these relate to RCH-II programme, in a phased manner. In the states, where State Health Systems Development Programme (SHSDP) projects have been implemented, the implementation of the HCWM up to the CHC (Community Health Centre) / FRU (First Referral Unit) level health care facilities and above already exists. However, at the level of PHC and below efforts would be required to implement HCWM systems. The overall Health Care Waste Management (HCWM) in the country is at a nascent stage.

There is thus a need to make an implementable Infection Management & Environment Plan (IMEP), by engaging the agencies such as MoEF and CPCB, which is applicable to all levels of healthcare facilities.

### **Types of Wastes**

The major types of wastes, which would be generated as part of the activities of RCH-II, are:

- a) Human Anatomical Waste (human tissues, placenta, body parts etc.)
- b) Sharps Waste (needles, syringes, scalpels, blades, glass etc.)
- c) Wastes generated from Medical Equipment (cold chain wastes, mercury, X-ray films etc)
- d) Discarded medicines and cytotoxic drugs (outdated, contaminated & discarded medicines)
- e) Plastic waste (waste generated disposable items other than waste sharps such as tubings, catheters, IV sets etc)
- f) Infectious Solid Waste (Items contaminated with blood, cotton dressings etc.)
- g) General waste
- h) Construction waste (waste generated from Expansion & Construction activities)

### **Challenges**

The major challenges identified under the RCH-II are as follows:

- a. Coverage of a large number of scattered centres at different levels of operations from Sub Centres and outreach sessions to FRUs.
- b. Implementation of the Programme, M & E.
- c. Asset Management
- d. Disposal of wastes.

### **Scoping**

Disposal of sharps pose the greatest challenge in the HCWM, especially in the rural areas and at the PHC and SC levels. The INCLIN study indicates that 63 per cent of all injections administered in India are unsafe, and syringe disposal techniques are faulty throughout the country.

A decision has been taken by Gol for using auto disable (AD) syringes for routine immunization. The AD syringes will be introduced in a phased manner in RCH-II. Almost 280 million numbers of AD syringes in about 150,000 SCs and outreach sessions in villages would be used, per annum. Coupled with the curative injections, it is estimated that almost 2150 tonnes of plastics, 613 tonnes of needles and 20 tonnes of glass waste need to be disposed per annum.

The construction activities planned in the RCH-II indicate that a total construction area of almost 12.50 lakh sq.m would be constructed in the form of new sub-centres, operation theaters (OTs), Labour Rooms, New Born Care Corners (NBCCs) etc. In addition, about 7500 D.G sets would be installed, 2700 Blood storage facilities operationalised planned as other infrastructural facilities under RCH-II. 62,000 tonnes of construction waste is expected to be generated. Although the new SCs may not be funded through RCH-II programme, for estimating the quantum of the construction waste, the same has been taken into consideration. The disposal of construction waste is a component built in to the construction contracts as per the existing norms of CPWD / State PWD .

The disposal of anatomical waste is a major challenge in view of operationalising of 24 hour labour rooms at large number of PHCs (about 20,000) in RCH-II.

The WHO's Rapid Assessment tool for HCWM, when applied to the CHC and PHC facilities visited in Rajsathan by the consultants indicate that there is no system in place for HCWM. Mixed HCW is generally dumped in shallow pits within the premises of the healthcare facility.

In earlier studies undertaken by the consultants in the states of West Bengal, Karnataka and Punjab where SHSDP projects have been operationalised showed that the basic HCWM components such as waste segregation, collection, transportation and disposal were in place at CHC/FRU levels. The institutional framework for training, Waste Management Committees, usage of Common Treatment Facilities (CTFs) has been developed but is not used effectively. The main target segment for implementing IMEP is the PHC, under the RCH-II. The SWAPs/DPL framework matrix for RCH-II highlighting issues such as site selection, construction, health, hygiene, safety etc. has been formulated.

Almost two-thirds of the CHCs / FRUs under RCH-II, have been covered under the SHSDP in different states, where the provisioning for the deep burial pits, Autoclaves, Shredders and consumables (Bins, Bags, needle cutters, safety gear) has already been made. An Asset Management Register is being recommended which would track and quantify the facilities and equipment at the District and State levels, to make provision for the replacement period, costs etc.

### **Infection Management and Environment Plan (IMEP)**

The salient features of the Infection Management & Environment Plan (IMEP) are as follows:

**Healthcare Waste Management (HCWM)** : Under the RCH-II programme, no provision has been made for North East, EAG and SHSDP States. However, under the IMEP it is being proposed that HCWM should be taken up in 2000 FRUs/CHCs which would be covered under RCH-II and 20,000 PHCs in the country, which would be operationalised to have 24 hour deliveries, to ensure better compliance.

At the PHC level, high grade mechanical needle cutters have been provisioned. The cut needles (with hubs) would be collected separately in PPCs, disinfected and buried in needle pits. Efforts would be made to recycle the plastic part of the syringe. The needle cutters have also been provided at the SC level and the cut needles from immunization activities at outreach centers and SCs would be disposed off in needle pits at the respective PHCs. Experts are examining whether the plastic body of the cut syringe is infectious or not. The plastic body would also be collected in non-chlorinated bags and disposed off at the PHC.

Framework for burial of anatomical waste (e.g. placenta) generated by ANMs while undertaking deliveries at domestic level, would be provided in composite guidelines for RCH-II.

The anatomical waste would also be collected and disposed off in the deep burial pit., at the PHC level. At the PHC level, a simple system of two coloured bins, one for general waste and other for infectious waste is recommended. The disposal mechanism for the plastic waste at the PHC level would be analysed and suitable action plan would drawn based on local conditions.

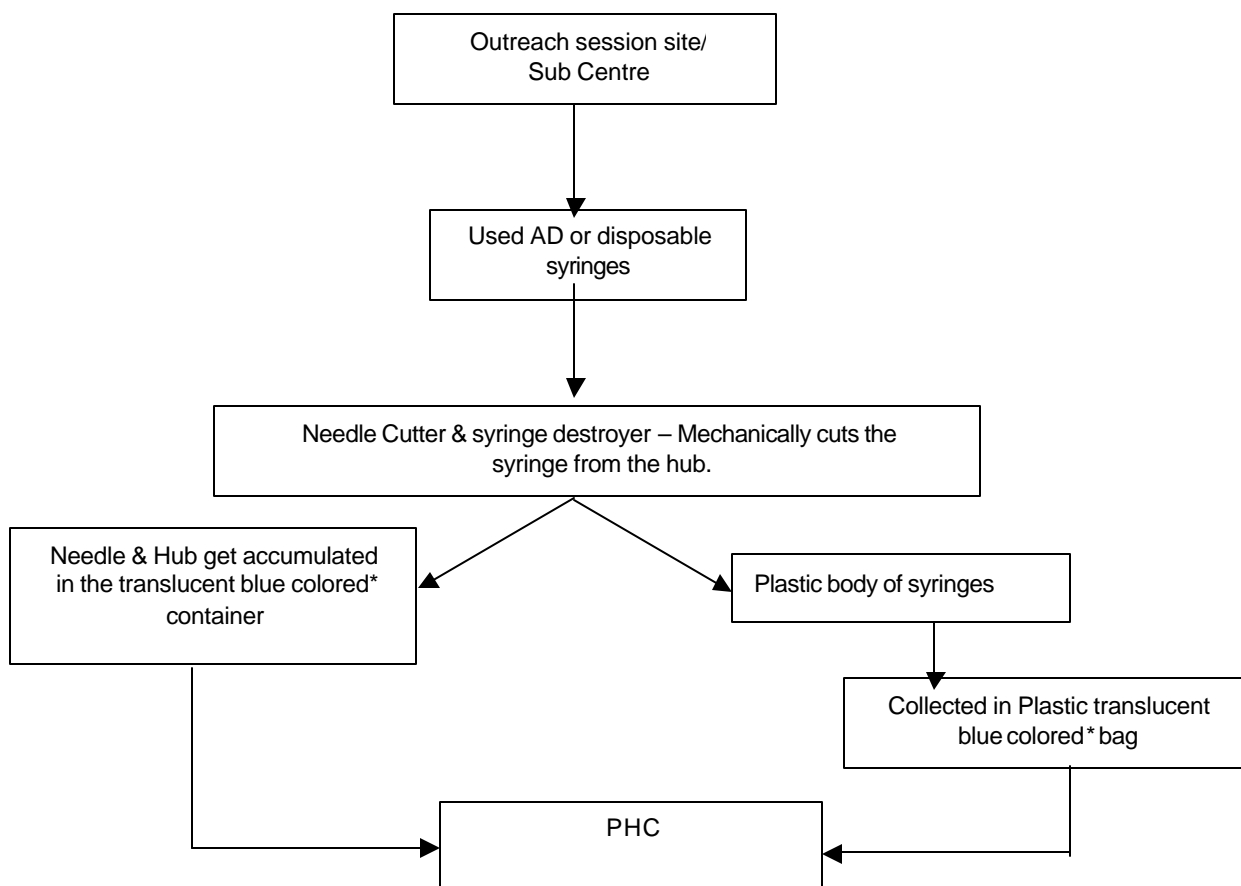
At the CHC/FRU level, high grade mechanical needle cutters would be provided. The remaining plastic part would be disinfected, autoclaved & shredded and used for recycling purposes. 3 coloured bins would be promoted as per the Bio-Medical rules, for collecting different types of wastes (Anatomical, Infectious Plastics and General Wastes)

Little variations in the HCWM for facilities located in Rural/Peri-Urban areas would be allowed in consultation with the states. The guidelines at the State level would be worked out by the end of 1<sup>st</sup> year.

Use of Common Treatment Facilities (CTF), wherever available, would be encouraged for the CHCs/FRUs located in the Urban/Peri-Urban areas.

The proposed plans for sharps waste management at the SC level and at the levels of PHCs/CHCs/District hospitals are provided at Figure 1 and Figure 2 respectively.

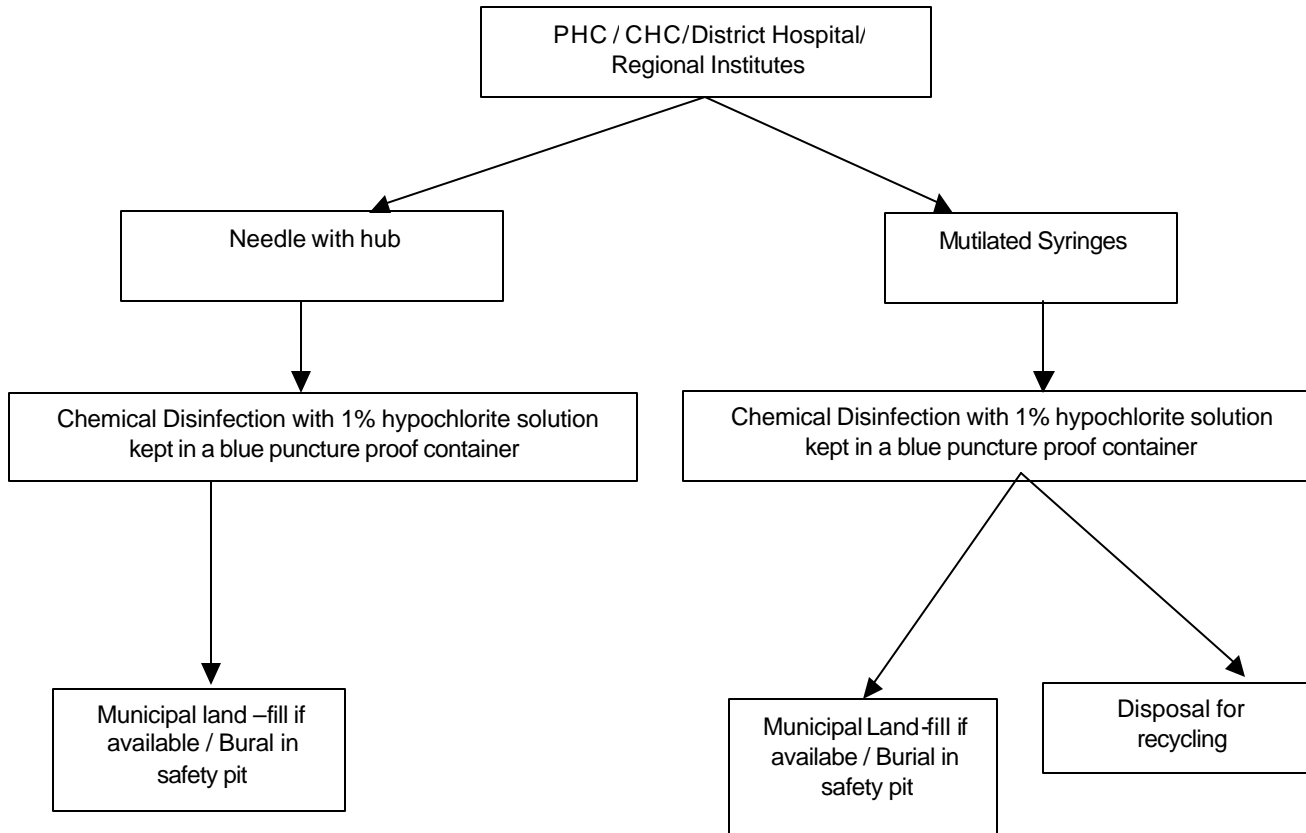
**Proposed plan (Flow chart) for sharps waste management at Outreach session site/Sub Centre**



\* As required under BMW management rule 1998 & amended thereafter.

**Figure 1**

**Proposed plan (Flow chart) for sharps waste management various health facilities**



**Figure 2**

**Injection Safety** : Special emphasis would be laid on the Injection Safety aspect and control of Hospital Born Infections (HBIs)

**Construction** : No construction guidelines are provided at the Central level under RCH-II or by CPWD. States would be engaged to include good construction practices as well as better siting, design aspects in their state level plans in conformity with the guidelines of the respective PWDs. State Level Guidelines for construction must be completed by October, 2005. The construction safety practices (SP 70-2001) as laid down by BIS could be used in RCH-II.

**Water & Sanitation** : Provision for uninterrupted water supply including water treatment plant has been made under RCH-II. It is recommended that Water Quality Monitoring (WQM) should be encouraged at the State level to minimize the risk of HBIs.

**Training and Behavior Change Communication (BCC)** : The focus of the training for Injection Safety and Sharps Disposal should be ANMs at the PHC and SC level and waste Incharge, WMCs and Nursing Staff at the CHC/FRU level. The IEC material aimed at the general public would also be developed to propagate the concept of better HCWM practices among all stakeholders. NGOs and Private Sector would be involved in training/BCC activities. Preparation of composite Training Manuals at the state level need to be completed by March, 2005. Decentralised training system is being recommended with district level as the focal point.

2 trainers in each district (a total of 1000 trainers) would be trained by means of intensive 3-4 training. Training manuals and IEC material would be provided to the trainers. IEC material would be provided to the trainers. This training would be completed by October, 2005. The trainers would then provide decentralized training to the ANMs, Doctors, Nurses, Class IV employees in their respective districts. This module would be a 1 day programme.

### **Monitoring & Reporting System**

A working Group would be formed at the Centres, by MoHFW, GoI which would work out the detailed action plan for implementation of RCH-II.

The Monitoring & Reporting system for implementation of IMEP for RCH-II would be an integral part of the overall reporting system for RCH-II.

The IMEP would included as a part of state PIP. The reporting system would made an integral part of MOUs to be signed between the Centre and the states for implementation of RCH-II. State facilitation teams would be formed for monitoring and evaluation of IMEP at the state level. This would be undertaken by Independent Quality Assurance Groups and Medical Colleges.

The State Nodal Officers for RCH-II, based on the composite guidelines provided by the Ministry of Health and Family Welfare, Government of India and in consultation

with the SPCBs would work out the designs and standards for various facilities and equipment required by the Health Care units for implementing the IMEP effectively.

A simple reporting system for PHC is suggested with focus on sharps disposal, which would also be sent by the SCs to the respective PHCs.. Exception Reporting, for immunization campaigns, etc. is recommended which would be monitored at the district level. The systems for Monthly HCWM Reports and Exception Reports need to be put in place by October, 2005. Special quality assurance groups would be involved for constant monitoring of implementation of IMEP. The overall monitoring of HCWM in healthcare facilities comes under the purview of respective SPCBs/PCCs. However the District Health Officer or CMO(H), District would be responsible for the M & E at district level together with the State Nodal Officer for RCH-II at the State level.

The district health officer would be responsible for annual reporting to respective State Pollution Control Board (SPCBs) as well as for getting requisite No Objection Certificates (NOCs) from the SPCBs for the health care facilities located in their area.

**Institutional Framework** : An institutional framework comprising of ANMs, Waste Management Incharge, Nursing Staff, Doctors, District Health Officers, State Nodal Officer, RCH-II, SPCB, LMA and MoHFW has been suggested with clearly defined roles. State level plans would need to be developed by the State Nodal Officers in consultation and with active involvement of district health authorities as well as other private agencies including NGOs.

The functions and task assigned to different levels of institutions and the personnel have been partly highlighted in the attached table.

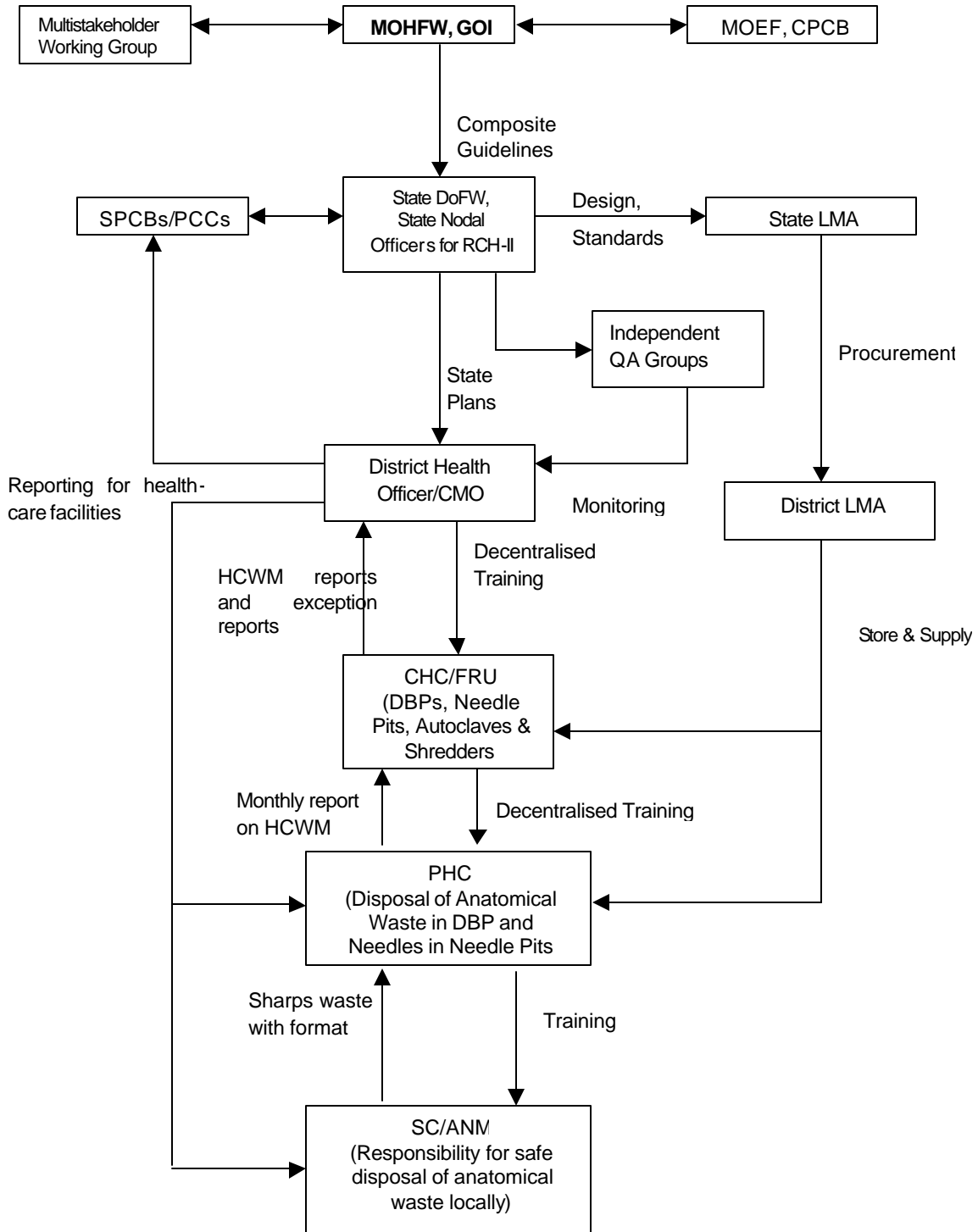
A Institutional framework with monitoring & evaluation and reporting system is illustrated at Fig. 3. The figure highlights the Institutional framework for preparation of composite guidelines, state plans, training, monitoring, reporting, waste disposal and reporting systems in a broad manner. The tasks of various stakeholders at the Central, State, District and healthcare facilities levels have been broadly highlighted at Table 1.

By the time of appraisal, greater clarity on the roles and responsibilities at Central, State, District and Facility roles and responsibilities against planning, training, implementation and M & E, would be worked out.

**Costing** : The estimated cost of proposed facilities and equipment (deep burial pits, Trolleys & Needle Cutters at all PHCs, SCs and CHCs/FRUs, Autoclaves, Shredders at all CHCs/FRUs,) is *Rs.115.64 crores*. The annual cost for consumables (Protective Gear, Plastic Liners, PPCs, Sodium-Hypochlorite Solution and Colour-Coded Bins) at all facilities is estimated at *Rs.32.63 crores*. The total cost for HCWM and Infection Management over the 5 year period is estimated at *Rs.290 crores* approximately, which is about 1% of the overall budget for RCH-II.

However, as more than 2000 CHCs/FRUs are already covered under the SHSDPs and provisions for the aforesaid facilities & consumables have already been made. The actual outgo under RCH-II would be thus substantially lower.

## INSTITUTIONAL FRAMEWORK FOR M&E



**Figure 3**

**TABLE 1**  
**TASK FRAMEWORK**

S.No.	Level	Functions/Task	Objective
1	ANM	Important role at the PHC and SC level disposal of sharps including AD syringes used in immunization.	Ensure proper collection and disposal at the SC and PHC levels.
2	WMI, CHC/FRU (Waste Management Incharge)	To assume responsibility for the overall HCWM and Infection Control at the CHC/FRU level and coordinate regular meetings for better HCWM practices, to prepare reports/forms for submission to SPCBs	To act as a coordinator for the overall HCWM at the CHC/FRU levels
3	Nursing Staff, CHC/FRU	To function in the Waste Management Committees to ensure better HCWM	To ensure proper segregation & collection of wastes.
4	District Health Officers	To monitor HCWM & Infection Management through periodic reports and field visits to health care facilities and also assist in clearances from SPCBs/Reporting to SPCBs.	To serve as link between healthcare facility and the State Nodal Officer/SPCB
5	State Nodal Officer, RCH-II	Prepare monitoring and State level plan and set up a mechanism for coordinating the implementation of IMEP in the state and interact closely with the SPCB and MoHFW, GOI	To implement the IMEP keeping in view the local conditions in the State, based on the composite Guidelines to be prepared by MoHFW
6	SPCB	To assist the District Health Officers and Healthcare Facilities in achieving a better HCWM in the State.	To monitor and control the overall HCWM in the state in the healthcare facilities under the purview of RCH-II
7	LMA	To assist in procurement, warehousing etc. of equipment and consumables required for HCWM.	To work at Central, State and District levels.
8	QA Groups, Medical Colleges etc.	To directly monitor and evaluate the implementation of IMEP at the State level.	To ensure better implementation of IMEP and compliance of Bio-Medical rules.
9.	Multistakeholder Working Group	Provide technical guidance & other inputs to states for implementation of IMEP	To refine the elements of action plan for IMEP, provide guidance for states and workout standard designs for procurement of equipment.
10	MoHFW, GoI	To engage MoEF, CPCB & other agencies in finalizing the IMEP for RCH-II and provide direction for its implementation as well as monitoring	To achieve better deliverables under RCH-II programme.

## Action Plan

Comprehensive guidelines for RCH-II to be drawn by MoHFW, GoI covering all components of the programme and defining roles at each level of operation.

The cost per center (including fixed costs and consumables costs for 5 years) for different categories of health care facilities is as follows :-

- a) CHC/FRU - Rs 4,60,000/-
- b) PHC - Rs 83,150/-
- c) SC - Rs 1,448/-

MoHFW to coordinate with States for preparation of State Level plans based on waste Audits & other parameters.

The potential suppliers of equipment such as AD syringes, Autoclaves, shredders, non-chlorinated coloured Bags etc. to be identified at the State level.

The NGOs and private consultants to be involved in development of the State plans.

Minimum Quality standards for Public-Private Partnerships (PPPs) for sanitation services, Common Treatment Facilities (CTFs), Training, BCC to be laid down.

Capacity Building for the SPCBs to be undertaken.

Technical specifications for Autoclaves, Shredders, Needle Cutters/Destroyers to be drawn by the MoHFW, GOI and intimated to the States.

Specifications for deep burial pits, Trolleys, etc. to be drawn at the State Level. The design of the DBPs would be based on the local conditions and would take into account the factors such as the water Table, History of floods in the region, terrain etc.

An inventerisation of the present facilities for HCWM, particularly at the CHC/FRU level, to be carried out at the State level.

Logistics Management Agency (LMA) at the Centre, State and District levels to be appointed with a mandate to manage consumables required for the HCWM.

District Administration to be actively involved in outsourcing contracts as well as for ensuring proper water & sanitation, availability of power etc.

More involvement of the SPCBs and the ULBs recommended to achieve better HCWM.

Formation of the WMCs at the CHC/FRU level recommended. At the PHC/SC level, ANMs to be the focal point in Waste Management activities.

The plans for PHCs and SCs located in rural/peri-urban areas to be formalized by the State.

The entire healthcare staff at all facilities to receive training in HCWM, Infection Control etc. in a phased manner. A schedule for refresher training courses also needs to be worked out. Decentralised model to be followed, by training the trainers who would further provide training at the District level.

For effective M & E, Quality Assurance Groups (e.g Professionals, Medical Colleges) to be formed. The district level officials to be made responsible for implementation and M&E of IMEP in respective districts.

The reporting system for IMEP would be broadly integrated with the overall reporting system for the RCH-II programme.

Information, Education & Communication (IEC) material for Public to be prepared.

Proposed action plan is provided in Table 2. The broad cost estimates for IMEP are provided at Table 3, Table 4 & Table 5 respectively.

It is recommended that the Refinement of Action Plan would be addressed by a working group, to be established and initiating discussions by the time of the RCH2 appraisal at the end of November 2004. The purpose of this multi-stakeholder group, which would roll forward into the implementation of RCH2, would be to refine the elements of the action plan in the IMEP and clearly sequence activities, review existing training and communications materials and experience, review M&E and treatment measures, and develop guidance for the states to develop their own training and IMEPs. A key function will be to advance discussions as early as possible on procurement of appropriate equipment and supplies, particularly standard designs and specifications for needle cutters, in preparation for the introduction of AD syringes.

#### State IMEP Plans

- (1) Composite guidelines for RCH-II at the central level would be finalised before preparation of state specific IMEPs.
- (2) Technical options for HCW disposal and management at the state level would be considered keeping in view the local conditions and logistics. The state IMEPs would be prepared in consultation with the SPCBs and in conformity with the Bio-Medical Rules.
- (3) The State IMEPs would also cover the following components :
  - a) Institutional framework for implementation.
  - b) Current status of HCWM in the state including impact of other programmes such as SHSDP.
  - c) Plan for expansion of healthcare facilities, new SCs etc. as a part of RCH-II Programme.
  - d) Training and Capacity Building Plan
  - e) Monitoring & Evaluation (M&E)

- (4) The IMEP would be disseminated at an early stage to the states so that specific state plans could be developed, as detailed above.

**Table : 2 - PROPOSED ACTION PLAN**

S. No.	Area	Activity	Responsibilities	Time Frame	Cost
1	Guidelines	Formulation of composite guidelines to be followed in RCH-II	MoHFW, Gol	June, 2005	Rs.1 crores for involvement of outside agencies, professionals
2	State Plans & Framework	Integrating IMEP with state plans based on RCH-II PIPs	DoFW, States	December 2005	Rs. 2 crores (Facilities Survey by independent consultants)
3	Standards & Design	Working Groups at State Level to formulate standard designs, requirements etc.	DoFW, States (State Nodal Officer for RCH-II)	December 2005	Rs. 2 crores (including consultancy, expertise)
4	*Model Districts in EAG and NE States	Model Districts. For implementation of IMEP in Phase – I, which could be replicated in other districts in phase– II	DoFW State Nodal officer, Districts	March 2006	--
5	Training, MIS, Procurement & Other issues	State Level Experiences to be shared	Relevant State Level Officials & Nodal Officer	March 2006	--
6	Training, BCC activities	Intensive Training for District Level officials who will further provide training to ANMs etc. (Decentralized)	State Nodal Officer District CMOH	October 2005	Rs 6 crores
		Training for ANMs doctors, nurses etc. by the trainers, who have already trained, at the district level.	State Nodal Officer District CMOH	March 2006	
7	Implementation of HCWM & IMEP	Construction of DBPs and Needle Pits, Procurement of Trolleys, Safety Gears, and Consumables	State Nodal Officers, Districts LMA	October 2006	Rs 280 crores **
8	Monitoring & Evaluation	By QA Groups, Medical Colleges, Professional Agencies etc.	QA Groups	Continuous & Periodic	Rs 2 crores
<b>Total</b>					<b>Rs 293 Crores</b>

\* In the PIP for RCH-II, HCWM system has been proposed only for non-EAG & non-SHSDP Projects. In the Action Plan, it is being suggested that in the EAG and NE states IMEP should be implemented in model districts in Phase-I

\*\* Total Costing for 5 years has been reflected here, although it will be a phased out implementation & actual outgo would be much less.

Table 3 : Proposed facilities & equipment for HCWM – RCH-II

Facilities & Equipment	SC			PHC			CHC/FRU			Total Cost (Rs. in Crores)
	Nos.	Unit Cost (in Rs.)	Value (Rs. in Crores)	Nos.	Unit Cost (in Rs.)	Value (Rs. in Crores)	Nos.	Unit Cost (in Rs.)	Value (Rs. in Crores)	
CBP	-	-	-	20000	25,000	50.00	2000	25,000	5.00	55.00
Autoclave	-	-	-	-	-	-	2000	100,000	20.00	20.00
Shredder	-	-	-	-	-	-	2000	100,000	20.00	20.00
Needle Cutters/Pullers	146000	800	11.68	40000*	1200	4.80	10000**	1200	1.20	17.68
Trolleys	-	-	-	20000	1500	3.00	4000	1500	0.60	3.60
<b>Total</b>			<b>11.68</b>			<b>57.8</b>			<b>46.8</b>	<b>115.64</b>

\* 2 Needle Cutters/Pullers per PHC

\*\* 5 Needle cutters/pullers per CHC

NOTE : Coverage for app. 2000 CHC/FRUs considered under RCH-II

Table 4 : Estimate of Annual requirements for HCWM consumables for SCs, PHCs and CHCs/FRUs

Category	Bed Strength	No. of Centres	Protective Gear (Apron, Mask, Gloves, Boots)					Plastic Liners (Non-chlorinated)					PP Containers				
			Req. per Centre (Nos.)	Unit Cost (Rs.)	Cost per Centre (Rs.)	Total Estimated Requirement	Cost for Protective Gear (Rs. in Crores)	Req. per Centre (Nos.)	Unit Cost (Rs.)	Cost per Centre (Rs.)	Total Estimated Requirement (No.)	Cost for Plastic Liners (Rs. in Crores)	Required per Centre	Unit Cost (Rs.)	Cost per Centre (Rs.)	Total Estimated Requirement (Nos.)	Cost for PP Containers (Rs. in Crores)
CHC/FRU	30	2000	3	1500	4500	6000	0.90	20,000	1.50	30,000	4.00	6.00	20	20	400	40000	0.08
PHC	5	20000	1	1500	1500	20000	3.00	5000	1.50	7500	10.00	15.00	10	20	200	200000	0.40
SC	0	146000	-	-	-	-	-	-	-	-	-	-	5	20	100	730000	1.48
<b>Total</b>	-	<b>168000</b>	-	-	-	<b>26000</b>	<b>3.90</b>	-	-	-	<b>14.00</b>	<b>21.00</b>	-	-	-	<b>930220</b>	<b>1.96</b>

Category	Colour Coded-Slins					1% Sodium Hypochlorite Solution					Total Consumables Costs (Rs. in Crores)
	Required per Centre (Nos.)	Unit Cost (in Rs.)	Cost per Centre (Rs.)	Total Estimated Requirement (in Lacs)	Cost for Colour Coded-Slins (Rs. in Crores)	Requirement per Centre (litres)	Unit Cost (Rs. per litre)	Cost per Centre (Rs.)	Total Estimated Requirement (kilo litres)	Total Cost (Rs. in Crores)	
CHC/FRU	50	200	10000	1.00	2.00	100	3	300	200	0.06	9.04
PHC	15	100	1500	3.00	3.00	50	3	150	1000	0.30	21.70
SC	0	0	0	0	0	10	3	30	1490	0.43	1.89
<b>Total</b>				<b>4.00</b>	<b>5.00</b>				<b>2590</b>	<b>0.79</b>	<b>32.63</b>

Table : 5 Costs per center for HCWM and Infection Control

S.No.	Facility	Facilities & Equipment (Rs. per centre)	Consumables costs for 5 years (Rs. per Centre)	Total cost per Centre (Rs.)	Total Costs All Centres (Rs. in crores)
1	CHC/FRU	254,000	2,26,000	460,000	92.00
2	PHC	25,300	54,250	83,550	166.30
3	SC	800	648	1448	21.14
4	Admn. & Tng Costs				13.00
				Total	252.44