Program Initial Environmental Examination, and Environmental Management Plan

April 2015

India: Supporting National Urban Health Mission

Ministry of Health and Family Welfare
Government of India

CONTENTS

EXECUTIVE SUMMARY

1. This initial environmental examination (IEE) assesses environmental impacts of the Supporting National Health Urban Health Mission (the program), and proposes a standard environmental management plan (EMP) for all subprojects to assess their potential environmental impacts, categorize their significance, and plan remedial actions. The IEE and EMP will be used to strengthen existing tools and mechanisms for health facility location selection and related environmental issues during the construction and operation.[1] The IEE is to be read together with the environmental diagnostic analysis of the program, as it provides a detailed description of laws, regulations, guidelines and policies that are applicable to the program, and field findings and observations at several program sites in several sample states. [2] The Program Safeguard System Assessment (PSSA) summarizes potential environmental and social impacts of the proposed refurbishment, upgrading and construction of urban health facilities in cities and towns of India. Together with PSSA, IEE examine the adequacy of the environmental management framework of the National Urban Health Mission (NUHM) in the context of the Safeguard Policy Statement of Asian Development Bank (ADB) (SPS 2009) and the environmental and social regulatory frameworks at the national and state levels, and whether it provides a robust safeguard compliance system that promotes sustainable development. Where gaps and weakness are found, some measures are suggested to remedy them.

2. The program will have minimum environmental impacts during construction and refurbishment of urban primary or community health facilities. Most of environmental impacts identified will be confined to its implementation phase. Biomedical waste (BMW) generation is the significant environmental impact of the operations of urban primary health centers (UPHCs) and urban community health centers (UCHCs), followed by generation of plastic waste, waste water, air pollution and infections, contaminated water, and degraded sanitation. Added to them are construction waste, noise, dust and emissions and occupational hazards to which construction workers and health workers are exposed, but these are temporary and limited to the construction sites and their surrounding areas. Poor drainage management, water pollution, construction debris blocking drains and non-functional washing and toilet facilities spread diseases.

3. The program positively impacts on millions of persons. The majority of them are the poor, vulnerable, and marginalized segments of urban population. Direct access to free health facilities in their communities helps improve their quality of life. Better health leads to better productivity which, in turn, improves their living standards. State governments will provide unencumbered land, if required, to build new UPHCs and UCHCs without acquiring private land. Vendors in the vicinity of health facilities may need to temporarily move a few yards during the construction or refurbishment of health facilities.

4. All principles except principles 8 (critical habitat) and 11 (physical cultural resources) of the environmental safeguard policy of ADB are likely to be triggered by the program. The environmental diagnostic assessment indicates that the program is likely to have some site-specific and reversible adverse environmental impacts mainly during the operation phase of its

[1] Such as (i) Operational Guidelines on Quality Assurance in Public Health Facilities (2013); (ii) Infection Management and Environmental Plan; (iii) Indian Public Health Standards Guidelines for Primary Health Centers; and, (iv) civil work contract requirements for contractors as per relevant environment regulations, etc.

[2] Diagnostic Assessment Report from the program preparatory technical assistance (available upon request).

newly constructed and refurbished urban health facilities. As the program will apply the two-level of screening process ─ program level and subproject level ─ to screen out civil works that may trigger significant environmental safeguards, it is likely to have minimal or no adverse environmental impacts in most subprojects. Moreover, most of civil work of subprojects will be (a) small in size; (b) confined either to the footprint of existing building (in case of refurbishment) or to compounded state land (in case of new construction); and (c) will mostly generate temporary adverse environmental impacts. The diagnosis analysis confirmed the categorization of environmental impacts of the program as 'B'.

5. A gap analysis was conducted to compare and contrast the program environmental regulatory framework with the ADB's environmental safeguard policy principles to identify gaps, if any, and also to highlight their congruence. It also assessed whether there is adequate institutional capacity to apply both ADB's environmental safeguard policy requirements and its own environmental regulatory framework to subprojects. Where gaps are found, remedial actions are proposed.

6. Laws and regulations on environmental protection and occupational and community health and safety are robust. But their implementation is rather weak because most of health personnel, especially at the state level, are unaware of these laws and regulations, and how to apply them at construction and refurbishment sites. Qualified and experience professionals in this field should be engaged to guide and train program management as well as health personnel.

7. Capacity building for safeguard compliance requires in-house training which will focus on best management practices, regulatory requirements, principles of waste management, and monitoring and reporting. Consultation practices should be strengthened to include all stakeholders, especially the poor and vulnerable groups, in meaningful consultations. The NUHM aims at strengthening community processes for outreach to the poor and vulnerable groups through accredited social health activities and Mahila Arogya Samitis, and these processes offers great opportunities for meaningful consultations on and disclosure of safeguard related issues and information.

8. The standard EMP is a generic EMP which could be adopted by each subproject to outline its own potential environmental impacts and how to avoid or mitigate them. It also indicates some broad monitoring indicators, and entities and persons who are responsible to implement them. The EMP will be integrated into existing instruments, e.g., Infection Management and Environment Plan (IMEP) / quality assurance guidelines and monitoring tools, to guide subproject entities to select or add its potential environmental impacts, based on the field observations and the scope of the subproject.

PROGRAM INITIAL ENVIRONMENTAL EXAMINATION

I. INTRODUCTION

1. India has made good progress in achieving health outcomes over the last decades, but the urban poor have largely been left behind. Alongside rapid urbanization, the urban poor, estimated to be around 77.5 million, are one of the fastest growing and most vulnerable population segments in India. They face harsh living conditions and have limited access to basic health care, resulting in their disproportionate burden of ill health. For example, the under-five mortality rate among urban poor was 72.7 per 1,000 live births compared to the urban average of 51.9.3 The majority of urban poor women delivered their babies at home. Almost 60% of the urban poor children below one year of age missed total immunization, compared to urban average of 42.4%. Many are also migrant workers with informal status, which limits their access to basic public services and welfare programs.

2. The delivery of health services in urban areas is largely unorganized, inefficient, and fragmented with weak referral linkages. Past interventions have tended to be vertical programs, focusing on particular diseases or reproductive health, and limited investment was made to strengthen broader urban health systems. Urban primary health facilities are limited in number, underutilized, vary in norms and quality, and have limited scope of services, including community outreach and health promotion. The major proportion of curative primary care occurs at secondary and tertiary levels, leading to overcrowding of these centers. Despite proximity to private health facilities, large numbers of urban residents cannot afford the services. Financial protection for the poor and near-poor is a key concern, given that a major part of total health expenditures is paid out-of-pocket, which can lead to further impoverishment.

II. NATIONAL URBAN HEALTH MISSION

3. In order to effectively address health concerns of the urban poor population, the Union Cabinet of the Government of India approved in May 2013 the launch of the National Urban Health Mission (NUHM) as a sub-mission of the over-arching National Health Mission (NHM). The National Rural Health Mission (NRHM) is the other sub-mission of the NHM. The objective of the NUHM is to provide quality primary healthcare services to urban population, and it will cover each city and town with a population of more than 50,000, all district headquarters, and state capitals.

4. NUHM will improve the health status of the urban population, particularly of slum dwellers, who constitute 17% of urban poor households and other vulnerable persons, by facilitating equitable access to quality health care. [4] It aims to achieve its objectives by developing an efficient public health delivery mechanism in cities and towns with building new health infrastructure, strengthening primary public health systems, entering into partnerships with the private sector and NGOs, improving community capacity through community level institutions, and by engaging the poor and vulnerable in project planning, implementation and monitoring.

[3] Ministry of Health and Family Welfare. 2007. *National Family Health Survey (NFHS-3), 2005–2006*. New Delhi. The next survey, NFHS-4, 2014−2015 is due in 2016.

[4] Vulnerable populations such as the homeless, rag-pickers, street children, rickshaw pullers, construction and brick and lime kiln workers, sex workers, and temporary migrants.

III. RESULTS−BASED LENDING PROGRAM FOR NUHM

5. ADB's results-based lending program is fully aligned with the NUHM implementation framework.[5] The program will add value by strengthening quality service delivery, community outreach, and management capacity to complement ongoing NUHM investments to establish urban primary health infrastructure as the backbone of urban health systems. Specifically, the program will strengthen (i) NUHM management capacity and implementation processes through significant capacity building, thus ensuring timely delivery of NUHM outcome; (ii) convergence between health and urban sector interventions, emphasizing integrated city-level planning with active involvement of urban local bodies (ULBs); (iii) partnerships and mechanisms to engage the private health sector, including not-for-profit entities; (iv) community participation to enhance governance and effective delivery of health services, and improve awareness about importance of better sanitation and hygiene; (v) program monitoring and evaluation (M&E) systems to ensure NUHM is implemented adhering to the norms and quality standards, evaluate and measure the results; and (vi) learning and sharing knowledge, good practices, and innovations to improve urban health. The program draws significant value addition from ADB's extensive experience in the urban sector and public-private partnership (PPP) advisory services in India.

IV. PROGRAM DESCRIPTION

6. The objective of the program is to support NUHM implementation towards a more equitable and quality urban health system. The program shall support NUHM in the following areas:

(i) Part 1: Strengthening the urban primary health care delivery system by:

a. establishing a system of urban primary health care facilities in the NUHM targeted cities and towns;
b. mapping of slums and vulnerable populations for city health planning, with active involvement of ULBs;
c. ensuring that minimum requirements (e.g., critical inputs [staff, medicine, equipment] and service packages, including referral service informed by existing geographic information system) are met at the UPHCs, and that the progress is closely monitored;
d. strengthening community outreach services to extend community health awareness and demand for services through linking communities to UPHCs by engaging ASHAs and MAS; and
e. timely recruitment and adequate training of ASHAs, and close monitoring of their functioning and effectiveness.

(ii) Part 2: Improving the quality of urban health services by:

(i) introducing a quality assurance mechanism for urban primary health facilities in a phased manner;

[5] Government of India. 2013. *National Urban Health Mission, Framework for Implementation.* New Delhi. The Framework provides broad national parameters and priorities, within which states have flexibility to plan and implement state-specific actions to deliver overall NUHM results.

(ii) ensuring that NUHM (a) focuses on organizational arrangements for quality assurance and capacity to manage the quality assurance system at the state level, (b) includes client-satisfaction as a quality measurement, and (c) monitors the progress and assesses effectiveness of the quality assurance mechanism to guide states for further quality improvements; and

(iii) assessing existing private provider regulation and accreditation practices for improving accountability and reliability of services to inform future policies and promote an enabling environment for private health sector engagement.

(iii) Part 3: Strengthening capacity for planning, management, and innovation and knowledge sharing by:

(i) monitoring the progress towards urban health specific management personnel to enhance staff capacity to implement NUHM;

(ii) assisting Ministry of Health and Family Welfare (MOHFW) to adopt and implement a capacity development framework to plan, monitor and incentivize capacity development for urban health system, prioritizing states with weak capacity, through the demand-based technical support;

(iii) enhancing the existing NRHM monitoring and evaluation mechanisms and staff capacity to better support NUHM operations, progress monitoring, and feedback to policy and planning through (a) improving the existing HMIS to produce urban disaggregated data, (b) strengthening existing management information systems to cover NUHM progress, and (c) improving data analysis capacity for key health outcome indicators; and

(iv) assisting MOHFW to develop and implement a framework for innovations and partnerships and closely monitor its implementation.

V. LEGAL AND REGULATORY FRAMEWORK

7. The Constitution of India states that health is a subject of the union government and state governments. The MOHFW is the executive agency of NUHM. MOHFW provides an overall policy framework to direct and coordinate the NUHM activities at the state level. It also provides guidelines for the preparation of PIPs and approval of annual PIPs, and funds for PIP implementation. Each state provides a portion of funding for PIP implementation, the necessary physical inputs (e.g., land, existing buildings, etc.), and manpower to implement its PIP, and manage risks associated with the PIP implementation.

8. The following policies, legislation and rules, regulations and guidelines are applicable to the NUHM.

Table 1: Legal and Regulatory Framework

Policies, laws, regulations, guidelines, etc.	Summary	Relevance to Program
Environmental Protection Act, 1986	i. Serves as an 'umbrella' legislation designed to provide a framework for central government coordination for the activities of various established central and state authorities. It is relevant to the health sector activities as well. ii. There are rules / notifications/ regulations that have been brought out under this Act, which are directly relevant to the health sector.	Provides for regulation on environment-related activities undertaken by the NUHM. All environmental rules emanate from this Act.
Water (Prevention and Control of Pollution) Act, 1974	i. Establishes standards for water quality and effluent discharge ii. Provides an institutional structure for preventing and reducing water pollution. iii. Consent-to-Establish (CTE) & Consent-to-Operate (CTO) from State Pollution Control Board (SPCB) are required where there is impact on water quality	The NUHM places special emphasis on water sanitation, and the Water (Prevention and Control of Pollution) Act guides on how to prevent and control water pollution during construction and implementation phases of the program
Air (Prevention & Control of Pollution) Act, 1981	i. Sets standards for prevention, control & abatement of air pollution by controlling emission of air pollution as per the prescribed standards. ii. CTE and CTO from SPCBs are needed when there is impact on air quality	Primary Health Centers would need a diesel generating set to generate power back up. All D-G sets need CTE and CTO under the Act.
Environmental Impact Assessment Notification, September 2006 (as amended in 2009)	i. Imposes restrictions on new projects and on refurbishment/modernizing of existing projects. The Schedule to the Notification states that if built up area of a project is more than 20,000 sq. meters; an environmental clearance certificate (ECC) is required.	This notification is unlikely to apply to new facilities or to refurbishing of current facilities. If the built up area exceeds 20,000 sq. meters, an ECC will be required.
Central Pollution Control Board (CPCB) Manual on Hospital Waste Management	i. In 2000, CPCB brought out technical guidance manual on bio-medical waste segregation, storage, transport and treatment. ii. The CPCB manual places special emphasis on incineration, covering incinerator emissions, maintenance requirements, operational problems & solutions, and pollution control systems.	The CPCB Manual will help the NUHM to manage the bio-medical waste in an efficient manner.
Guidelines for Universal Immunization Program (UIP)	i. UIP in India is one of the largest health programs in the world for giving vaccinations to children and women. The vaccination practice of the UIP so far involved the use of either glass or disposable syringes. ii. There are other regulations including Guidelines on AD Syringes, Guidelines on Mercury-Contaminated Wastes, CPCB	All medical facilities will generate waste such as syringes, used cotton and bandages, etc. These guidelines provide appropriate advice on handling, managing and disposing of the waste.

Policies, laws, regulations, guidelines, etc.	Summary	Relevance to Program
	Guidelines on Central Waste Treatment Facilities and others.	
National Health Policy, 2007	i. Ministry of Health and Family Welfare laid down a National Health Policy with the objective of achieving an acceptable standard of good health amongst the general population, with more equitable access across the social and geographical expanse of the country. ii. This policy recognizes linkages between the health sector and environment and envisages that the environment-related policies and programs are smoothly interfaced with health policies and programs	National Health Policy helps the NUHM to link with environment sector.
Hospital Waste Management Guidelines, 2002	i. In 2002, the Ministry of Health and Family Welfare laid down national guidelines on hospital waste management. In addition to covering the important aspects of the Biomedical Waste Management Rules, these Guidelines include good practices, training requirements, management & administration requirements and co-ordination requirements between hospitals and outside agencies.	These guidelines help NUHM in capacity building and co-ordination between different agencies. The Hospital Waste Management Guidelines are particularly important to the NUHM.
Infection Management and Environment Plan (IMEP), 2007	ii. Policy Framework and Operational Guidelines to address the issues relating to infection control and waste management (IC-WM). iii. IMEP Policy Framework provides a broad overview and generic guidance to central and state level institutions on the type of systems and processes to be established for infection control, BMW, and environmental issues for location selection, design and construction management. iv. Operation manuals for health care workers at primary level health care facilities for infection control and BMW. v. The Guidelines target all stakeholders including health workers, doctors, nurses, managers and a chain of stakeholders in the healthcare system. The IMEP is intended to be a synthesis of many legal and regulatory instruments and other best practices with an aim to establishing and maintaining high quality standards for infection control and environmental management.	At the implementation phase of the NUHM, the guidelines will provide advice and guidance as to how to deal with health and environmental risks that may arise such as poor infection control practices and unsound environment management systems.
Indian Public Health Standards (IPHS) Guidelines for Primary Health Centers,	i. The Standards establish links between health and environment. They also help in monitoring and improving the functioning of Urban Primary Health Centers (UPHCs).	These guidelines will help in improving the day to day operations of Primary Health Centers.

Policies, laws, regulations, guidelines, etc.	Summary	Relevance to Program
Revised 2012,Directorate General of Health Services	They set parameters as follows: (a) A typical Primary Health Centre covers a population of 20,000 in hilly, tribal, or difficult terrain areas, and 30,000 populations in plain areas with 6 indoor/observation beds. (b) It acts as a referral unit for 6 sub-centers and refer cases to Community Health Center (30 bedded hospital) and higher order public hospitals located at sub-district and district level. (c) As the population density in the country is not uniform, the number of UPHCs would depend upon the case load.	
Bio-Medical Waste (Management and Handling) Rules, 1998.	i. 'Bio-medical waste' means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities. ii. Rules apply to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form.	All medical facilities are likely to have these wastes requiring appropriate disposal. The Rules provides a comprehensive checklist.
Implementation Framework of NUHM	Defines goals, objectives, strategies and outcomes of the NUHM in addition to the institutional arrangements, financial resources and planning and appraisal process	Indicates the approach to be taken in renovating /refurbishing of existing facilities and construction of new facilities.
NUHM: Guidelines for Preparation of State PIP during 2013−2014	Provides a framework for state program implementation plans and the planning process including the need to prioritize cities, broad contents, timeframe for identified activities.	Indicates details on the proposed physical infrastructure of UPHCs and UCHCs
Other Regulations	There are other regulations that do not directly refer to healthcare facilities but are indirectly applicable. For instance, mercury waste generated from medical equipment, such as thermometers and dental amalgam, have to be disposed as per the Hazardous Waste (Management & Handling) Rules. Municipal Solid Waste Management Rule, 2000 deals with the municipal waste, non-biomedical waste coming out of the health facility.	Different regulations will provide guidance on miscellaneous issues as and when they arise.

9. These national level policies, laws and guidelines are supplemented by state level policies, legislation and guidelines. The NUHM is bound by both Union and state laws and regulations. Health sector regulations and guidelines applicable to address potential environmental issues are elaborated below.

(i) **Indian Public Health Standards Guidelines** provide detailed guidance on site selection for health facilities.

Table 2: Indian Public Health Standards Guidelines for Facilities

Facility	Indian Public Health Standards Guidelines
Urban Primary Health Center	• Should be centrally located in an easily accessible area. The area chosen should have electricity, good transport, adequate water supply, and telephone services. At a place, where a Primary Health Center is already located, another health centre/SC should not be established in order to avoid wastage of financial resources. • Should be away from garbage collection points, cattle sheds, water logging areas. • Shall have a dedicated intact boundary wall and a gate. • Each building should have a prominent board displaying the name of the centre in local language at the gate and on the building. The Primary Health Center should have pictorial, bilingual directional and layout signage of all departments and public utilities (toilets, drinking water).
Urban Community Health Center	• The centre should be located at the centre of the block headquarters in order to improve access to patients. • Area chosen should have electricity, good transport, adequate water supply, and telephone services. • Should be away from garbage collection points, cattle sheds, water logging areas. • Should not be located in low lying area in order to avoid flooding. • Should have dedicated, intact boundary wall with a gate.

(ii) **The NUHM implementation framework** has further improved the above guidelines with a view to avoiding or minimizing environmental impacts by proposing the following approach to infrastructure planning:

a. For each UPHC, land and other infrastructure assistance will be provided free of cost by the State Government. Government land will be made available for new UPHCs/UCHCs wherever required, thereby avoiding the acquisition of private land to the extent possible.
b. Buildings for new UPHCs and other additional infrastructure shall be provided by the State Government, as per specified parameters.
c. Existing health facilities will be renovated and strengthened.
d. Facilities constructed under various government schemes such as Jawaharlal Nehru National Urban Renewal Mission and ULBs will be utilized to set up new UPHCs, where available.
e. Some new UPHCs will be started in rented in buildings to avoid land acquisition and displacement and to reduce costs.
f. Mobile units will be deployed where it is difficult to find land in slums to build health infrastructure facilities.

10. The **Technical Resource Group (TRG) recommends** the following guidelines:

(i) At least 50% of all UPHCs must be located within the settlements where urban poor household live. If land cannot be found to construct a UPHC, it should be located within 0.5 kilometers from the settlement.

(ii) The remaining 50% of UPHCs will be established in areas where the majority of residents belong to middle classes with decent housing and civic infrastructure, public health centers such as Central Government Health Scheme (CGHS) and Employees State Insurance Corporation (ESIC) dispensaries. Such facilities should also be incorporated and upgraded.

(iii) Redeploy, extend and refurbish existing infrastructures. New infrastructure will be built only where none exists. Facility mapping will indicate available public health institutions, including ULB dispensaries and hospitals, CGHS clinics and ESIC hospitals. There should be central government guidelines that direct to regard all these health institutions as a common pool of health facilities which would progressively ensure that universal primary health coverage in urban areas is achieved. Since a large number of existing facilities are located in middle class areas, NUHM can invest in additional rooms, staff, equipment and drugs at these institutions to reduce cost.

(iv) NUHM can use current physical health infrastructure. Out-patient departments and medical colleges are usually vacant in the evening. Such free space can be used for running poly-clinic OPDs as a first referral from UPHCs. These could also be deployed on Sundays for special geriatric clinics.

(v) Mapping process of slums to include access audit of the locations of UPHCs will help to identify any social barriers that exclude access to vulnerable groups including disabled and aged people and rectify them.

11. The Indian Public Health Standards (IPHS) guidelines, the proposed approaches under NUHM implementation framework and recommendations of TRG together provide a set of robust guidelines to avoid or at least to minimize environmental impacts on private assets, livelihoods of those without titles, and also to avoid issues of unauthorized occupants within facility boundaries.

12. In addition, MOHFW in 2007 formulated the 'National Health Policy' to address issues relating to infection control and bio-medical waste management. Based on the Policy, MOHFW has also developed a 'Policy Framework Document' and an 'Infection Management and Environment Plan' (IMEP) and its 'Operational Guidelines'. These instruments were originally formulated for the National Rural Health Mission (NRHM). The NUHM has adopted them to guide it in environmental planning and implementation of subprojects that it supports.

13. The IMEP is a policy framework to guide managing – avoiding, reducing and controlling – health and environmental risks arising from healthcare facilities. Health and environmental risks arise from poor infection control practices and unsound environment management such as inappropriate disinfection methods, poor sterilization techniques, poor quality protective gears, poor BMW handling, treatment and disposal practices, unhygienic and unsanitary conditions, and inadequate potable water at health care facilities. Through a structured and systematic approach, IMEP aims to bring in state-of-the-art best practices to manage health and environmental risks. A set of Operational Guidelines for Healthcare Workers for Waste Management and Infection Control in Primary Health Centers provide comprehensive guidance on these issues. Annex 2 shows the main points of the Guidelines. Approved in 2007, IMEP needs review and update to incorporate any key regulatory requirements (e.g., Indian Public Health Standards Guidelines for Primary Health Centers which was revised in 2012, and the Operational Guidelines for Quality Assurance in PHCs, 2013). Guidelines and training modules for IMEP will need to consider urban context, which can be quite different from rural setting where IMEP was developed for. In updating IMEP and related guidelines and training modules, best practices in environment (and social) safeguards will be incorporated as necessary.

14. MOHFW has developed Operational Guidelines for Quality Assurance in PHCs, 2013 comprising a comprehensive system of quality assurances. This system includes standards and measures, roadmaps, monitoring and reviewing and guidelines and frameworks for quality management. There is an Assessor's Guidebook for Quality Assurance at District Hospitals, (Volumes I & II) which provides tools for internal and external assessment of district hospitals and other health facilities.

15. The main pillars of the Quality Measurement Systems (QMS) are Quality Standards (Annex 1). There are seventy standards, defined under the QMS. The standards are grouped into 8 units. Each standard has specific measurable elements. These standards and measurable elements are checked at each department of PHC through department specific checkpoints. All checkpoints of a department are collated, and together they form the assessment tool called "Checklist". Scored/filled-in Checklists would generate scoreboards.

16. Infection control is one of the areas of concern – standard 'F' in QMS Guidelines. The first principle of health care is 'to do no harm'. As public hospitals usually have high occupancy, the infection control practices, hand hygiene, antisepsis, personal protection, processing of equipment, environment control and BMW management are on high alert. Annex 2 shows the Standard 'F' in Areas of Concern regarding infection control and its measurable elements.

17. BMW has been recognised as the generator of significant environmental impacts. There is an exclusive 'Rule on BMW' issued by MOEF, and strict compliance with it is expected from all BMW generating entities. The latest amended BMW Rule, 2011 says that "irrespective of the quantum of the BMW generation every occupier of an institution includes a hospital, nursing home, clinic, dispensary, veterinary institution, animal house, pathological laboratory, blood bank generating, collecting, storing, transporting, disposing, and handling shall apply for grant of authorisation".

18. The review of BMW management in JRM, 2011 says that bio-medical waste management and segregation of waste at the point of generation is not taking place in the prescribed manner at health care facilities. Sometimes bags are not collected as per agreed frequency. The Review recommends that BMW management wherever it has been outsourced to private agency needs to be managed better through e.g. clear specifications for services to be delivered. Also there should be closer co-ordination with State Environment Pollution Prevention Board, which is responsible for adherence to standards for BMW disposal as per the Act.

VI. REGULATORY FRAMEWORK AND ENVIRONMENTAL SAFEGUARD POLICY OF ADB – CONGRUENCE AND GAP ANALYSIS

19. This section compares the program environmental regulatory framework with the ADB's environmental safeguard policy principles to highlight their congruence, identify gaps, if any, and to suggest mitigation actions to bridge such gaps. It also scrutinizes whether the program possesses sufficient institutional capacity to apply both ADB's environmental safeguard policy requirements and its own environmental regulatory framework to subprojects of the program. Where gaps are found remedial actions are proposed.

Table 3: Gap Analysis of Environmental Safeguard Requirements and Institutional Capacity

ADB Policy Principle	Congruence/Gap between Program Environmental Regulatory Framework and ADB's Environmental Safeguard Policy	Assessment of NUHM's capacity to meet ADB Environmental Safeguard Policy requirements
1. Screen and categorize.	The EIA Notification, 2006 and IMEP Policy Framework provide adequate directions on screening and categorizing potential environmental impacts of a proposed subproject under the program. Any UPHC to be built or refurbished has to comply with the requirements of this rule and would have to go through the screening process. This is congruent with ADB environmental policy requirements.	MOHFW applies these rules and regulations to any construction or refurbishment of building. It has the expertise to screen and categorize a subproject's potential environmental impacts.
2. Conduct an EA for each proposed project and physical cultural resources in the context of the project's area of influence.	Environmental Protection Act of 1986, EIA Notification, 2006, and IMEP Policy Framework emphasize that all health facilities under the NUHM should comply with the laws and regulations. The LERF in this regard is congruent with the ADB Environmental Policy requirement.	MOHFW has sufficient experience and knowledge to conduct environmental due diligence of a subproject.
3. Examine alternatives including the no-project alternative.	A screening checklist is included in IMEP / quality assurance guidelines to screen and classify. The screening checklist will be administered before a new site is selected for a new UPHC. One of the criteria is considering alternatives of size, scale, and operation methods. LERF too provides necessary guideline in this regard which applies to any project. This is in congruence with ADB's environmental safeguard principle.	MOHFW has sufficient experience in applying the guidelines and checklists.
4. Prepare an EMP.	IMEP Policy Framework requires compliance with the EIA Notification Rule of 2006. The program level environmental diagnostic analysis will be the program IEE. A standard EMP is prepared for the program, as part of the IEE. Each subproject with site-specific and reversible environmental impacts will prepare an EMP following the standard EMP. The above is in congruence with ADB's environmental safeguard policy principle.	A standard EMP attached to the program IEE will inform the updating of IMEP guidelines and/or the development of new quality assurance guidelines to strengthen measures for safeguard compliance. For potential adverse environmental impacts identified by the checklist, mitigation measures will be proposed in the subproject's EMP, or any equivalent planning and monitoring instrument under the IMEP/quality assurance tool application. The EMP will also inform civil work contracts to ensure that the contractors will address potential environmental impacts adequately.
5. Consult stakeholders and establish a GRM.	The EIA Notification, 2006, EIA Rule, and IMEP Policy Framework provide for stakeholder consultation with health workers, community and other stakeholders. However, in Category B projects stakeholder consultations and public hearing process are	MOHFW will have to further improve its current community consultation practices and resolution of grievances of project beneficiaries through a community-based GRM.

ADB Policy Principle	Congruence/Gap between Program Environmental Regulatory Framework and ADB's Environmental Safeguard Policy	Assessment of NUHM's capacity to meet ADB Environmental Safeguard Policy requirements
	not required by the national regulations. The NUHM will incorporate a strong community consultation process, as it will focus on urban poor and vulnerable groups. The program will also have a community-based GRM. This is in congruence with ADB's environmental safeguard policy principle 5.	
6. Disclose EA and EMP to all stakeholders.	IMEP Policy Framework provides for the disclosure of environmental planning documents. The EMP based on the findings of the checklist administered at the subproject level will be disclosed to all of its stakeholders, through the NUHM community process. This is in congruence with ADB's environmental safeguard policy principle 6.	MOHFW and its state level agencies will have to further improve procedures to disclose the safeguard-related documents at the program and subproject levels, especially through NUHM community processes. This is especially important as the main program beneficiaries are the poor and vulnerable people.
7. Implement the EMP and monitor its effectiveness.	As per the EIA Rule, EMP implementation is monitored internally through audits and externally by third-party audits. It will also be inspected by State Department of Environment and SPCBs. This is in congruence with ADB's environmental safeguard policy principle 7.	MOHFW has capacity mainly in BMW management and infection control. IMEP Policy Framework requires the progress of IMEP implementation to be reported on quarterly basis as part of the regular progress monitoring, not separately. An MIS will be established to monitor IMEP/quality assurance implementation through a set of indicators. An independent procurement audit will include a sample based review of civil work for safeguard issues including EMP implementation.
8. Avoid critical habitats.	The regulatory framework provides for the protection of critical habitats and environmentally sensitive areas to which IMEP Guidelines refer to. This is in congruence with environmental safeguard policy principles of ADB.	The program is unlikely to trigger this principle.
9. Prevent pollution.	The IMEP Policy Framework is comprehensive and covers environment management system components such as waste management and infection control; goals, organizational structure, environmental impacts, mitigation and management plans, reviewing and monitoring and awareness and training. This is in congruence with the environmental safeguard policy principles.	The implementation of the IMEP guidelines, especially for issues during construction, is weak at the state level. A low level of awareness about pollution guidelines is noted among the health staff, especially at the state level. This necessitates special awareness training programs with follow-ups. Quality assurance tools may include specific guidelines to address these issues where IMEP guidelines are lacking. SPCBs will have to play a key role in awareness creation and in the application of rules and regulations pertaining to noise, air and water pollution.

ADB Policy Principle	Congruence/Gap between Program Environmental Regulatory Framework and ADB's Environmental Safeguard Policy	Assessment of NUHM's capacity to meet ADB Environmental Safeguard Policy requirements
10. Ensure occupational and community health and safety.	The IMEP Guidelines have three separate operational guidelines for three types of PHCs consisting of pictorial instructions for health care workers on procedures and plans for infection control and BMW management. These operational guidelines are In congruence with environmental safeguard policy principle of ADB.	As a part of environmental clearance of Category A and B1 projects this principle is implemented. Project level application of the operational guidelines is weak partly because of lack of professional and partly shortage of funds. Contractors and project personnel need further training in this regard.
11. Conserve physical cultural resources.	The LERF provides for the conservation of physical cultural resources and to protect such resources which mentioned in the Guidelines. EIA Notification covers the essence of this principle when an EA is done. LERF is in congruence with this environmental safeguard principle of ADB.	There is a low level of awareness among health staff at national and state levels on guidelines for conservation of physical cultural resources. Awareness programs on physical cultural resources are to be included in safeguard orientation training.

ADB = Asian Development Bank, BMW = biomedical waste, EA = environmental assessment, EIA = environment impact assessment, EMP = environmental management plan, GRM = grievance redress mechanism, IEE = initial environmental examination, IMEP = Infection Management and Environment Plan, LERF = local environmental regulatory framework, MOHFW = Ministry of Health and Family Welfare, NUHM = National Urban Health Mission, PHC = primary health center, SPCB = State Pollution Control Board, UPHC = urban primary health center.
Source: Asian Development Bank.

20. The national and state level environmental regulatory framework together with the guidelines of NUHM are adequate to meet international best practices that are enshrined in ADB's Safeguard Policy Statement (2009). There are a few areas such as consultation, disclosure and EMP implementation that need improvement. What is inadequate is implementation and enforcement of environmental laws and regulations in the health sector projects.

21. **Consultation and disclosure**. The national regulatory framework does not provide to include all stakeholders including the poor and vulnerable groups in meaningful consultations. Likewise, disclosure of safeguard instruments in local languages, for the benefit of all stakeholders, is limited. The NUHM aims to build strong community processes as part of its core strategy where the roles of ASHAs and MAS, or local community collectives, are critical. The community processes can be utilized for consultations on and disclosure of safeguard related issues and information.

22. **EMP implementation and monitoring**. The safeguard specialist engaged under the program will review IMEP and incorporate the standard EMP (potential environmental impacts and issues during pre-construction, construction and operation phases as well as corresponding mitigation measures) into the updated IMEP and/or quality assurance guidelines to guide the UPHC and UCHC development and operation. The safeguard specialist will also review the civil work tender and contract templates and advise inclusion of mitigation measures. Most of pre-construction and construction phase environmental issues and impacts will be handled by contractors under the supervision of project implementing entity. MOHFW and state level agencies will monitor compliance with updated IMEP / quality assurance guideline requirements as described in the monitoring section.

23. The effectiveness of the mitigation measures will be evaluated, through internal monitoring and external implementation audit / review, to determine whether they should be continued or improved. Improvements need to be confirmed through stipulated environmental management procedures.

24. The cost of mitigation measures are embedded and secured as part of the design and construction cost of the subproject. MOHFW and states will ensure that adequate costs for mitigation measures and monitoring activities are allocated in the PIPs.

25. **Capacity building**. Laws and regulations on occupational and community health and safety are robust. But their implementation is rather weak because most of health personnel, especially at the state level, are unaware of these laws and regulations, and how to apply them at construction and refurbishment sites. Qualified and experience professionals in this field should be engaged to guide and train program management as well as health personnel.

VII. DESCRIPTION OF ENVIRONMENT

26. **Description of environment** is based on the data and information collected through the following methods:

(i) Documents of the NHM and the NUHM were reviewed to ascertain the scope of environmental and social impacts and risks of the proposed construction and refurbishment of health facilities under the program.

(ii) A detailed desk review of relevant laws and regulations at the national level and state level, and policy documents relevant the health sector. Special attention was paid to the Infection Management and Environment Plan; Policy Framework, March 2007; World Bank Environmental Studies on the Health Sector in India; and Mainstreaming Environmental Management in the Health Care Sector and documents on NUHM program including Common Review Mission reports and the World Bank's Environmental, Health and Safety Guidelines. ADB documents reviewed include ADB Public Communications Policy, 2011; Safeguard Policy Statement, 2009; and RBL Policy Paper.

(iii) Consultations with regulatory bodies such as state pollution control boards (SPCBs), state mission directorates and the workers, doctors and other personnel at health facilities. Consultations with MOHFW and state level health personnel helped ascertain whether the program has an environmental and social regulatory framework or at least detailed guidelines to identify and mitigate environmental and social safeguard impacts of its subprojects. The MOHFW personnel and several common facility owners were interviewed to check how well they understand the environmental and social regulatory framework, and their capacity to apply them to development interventions such as NUHM.

(iv) The program team conducted site visits in four states to review their current status of urban health facilities and their operations. During these site visits, NUHM's future beneficiaries – the poor in urban slums – were also consulted on current service standards of health facilities and their views on how to improve the health services. The key environmental issues examined during the visits

are: BMW management, location of the PHCs, regulatory compliance, and whether best practices were followed by PHCs in infection control. The PHCs in West Bengal, Tamil Nadu & Madhya Pradesh were chosen as sample PHCs of the proposed program and field visits were conducted to obtain a firsthand view how at the state level health facilities and services operate. Summary of field visits are presented in below subsections. The following key environmental issues were examined during the field visits:

a. BMW management: awareness, segregation, collection and transportation and disposal, disposal practices;
b. Location of the PHCs: whether any site screening criteria had been considered; proximity to any environmentally sensitive features including reserved forests ;
c. Regulatory compliance; environmental consents to establish and operate under the Water and Air Acts; and
d. Best practices followed in case of infection control in the PHCs

A. West Bengal

27. Summary of the field observations in West Bengal State:

(i) There is no action plan for identification and assessment of environmental impacts that would be generated during the implementation of the program.

(ii) Partial compliance with rules regarding bio medical waste (BMW) collection and disposal. Segregation of BMW was not systematic because of low level of awareness among the health staff regarding the importance of waste segregation.

(iii) A private operator collects, treats and disposes of BMW at a treatment facility. Operator's activities are monitored and by the State Pollution Control Board. It was observed during field visit that BMW in all facilities are not always disposed of scientifically.

Picture 1: BMW disposed of and burnt open land

B. Tamil Nadu

28. Summary of field observations in Tamil Nadu

(i) Satisfactory level of awareness on environmental impacts is noted at the Health Directorate, Mission Directorate and Department of Public Health, particularly on bio medical waste disposal.

(ii) Regular training programs on segregation and disposal of BMW by the Department of Public Health for the benefit of health workers, doctors and the general public.

(iii) There is a system of apportioning of accountability for environmental safeguards. Medical officers and health inspectors check on environmental conditions in the city/town along with the local bodies such as the Municipal Corporation. Health Inspectors report to the Medical Officer and the Municipal Commissioner. Medical Officer reports to District Health Officer who reports to the Deputy Director of Health Services on their designated responsibilities.

(iv) Public health norms include environmental pollution reduction and no hazards to human health

(v) There is a BMW management system. BMW is collected and transported by 10 approved BMW private operators who hygienically dispose of them. Their activities are monitored and managed by the State Pollution Control Board.

(vi) Department of Public Health (DPH) is aware of the IMEP Guidelines on environment. It conducts regular monitoring of the quality of drinking water. It has 6 water quality testing laboratories.

(vii) Prescribed protocols on infection control are followed by DPH.

(viii) Hospitals have color-coded bins to dispose waste and portable incinerators to cauterize needles.

(ix) The health staff at all levels is aware of the significance of bio medical waste handling and disposal. Training is being provided on regular basis to the health staff and doctors.

(x) Municipal Corporation is responsible BMW management at its PHCs. It also manages the drinking water quality in Chennai City. It regularly tests the quality of water for chlorine content and other parameters.

(xi) Private operators collect and dispose BMW. PHCs segregate the waste in color coded bins and keep a record of the waste by weight when giving it to the operator. The TN State Pollution Control Board has appointed BMW operators in Chennai.

Picture 2: Color-coded bins

C. Madhya Pradesh, Bhopal

29. Summary of field observations in Bhopal in Madhya Pradesh State:

(i) A satisfactory level of awareness on environmental impacts and especially on BMW management was found at the Health Mission Directorate and Department of Public Health.

(ii) The health staff members are familiar with the Nursing Home Act and the Clinical Establishment Act relevant to the setting up of PHCs. These Acts include pre-screening criteria for site selection.

(iii) PHCs are responsible for segregating and disposing BMW. In the city of Bhopal, Bhopal Incinerator Ltd (BIL) collects and disposes of BMW. All PHCs pay a fee to BIL for its services. The Pollution Control Board inspects BIL and grants the license to operate.

(iv) As the PHCs have no earnings of their own, they pay for BMW services from the *RogiKalyan* and *Kaya Kalp* funds.

D. Madhya Pradesh, Indore

30. Summary of field observations in Indore, Madhya Pradesh:

(i) Health care facilities are under the purview of the Department of Health. A BMW operator collects BMW from private and government health care facilities. In case of PHCs, the state pays the BMW fee to this operator.

(ii) A private operator has a tripartite agreement with the Municipality Council (MC) and the Nursing Home Association. The role of the MC is to ensure that the operator collects BMW each medical facility in the city.

(iii) There is a treatment-cum-disposal facility handling 3.0 TPD of BMW. Indore City generates 3.5 TPD of BMW.

(iv) Each PHC obtains a NOC to operate from the State Pollution Control Board. They also get an authorization from SPCB to become a member of the common BMW treatment and disposal facility.

(v) The common treatment and disposal facility has obtained an environment clearance from the Ministry of Environment and Forests, as it falls under Category A of environmental impacts.

(vi) Each PHC is required to have effluent treatment plant, but most of PHCs do not have this facility.

Picture 3: Primary Health Centre in Indore

31. At each site visited, BMW initiative was noted. At several locations, approvals have been obtained to operate the BMW initiative. Compliance status is satisfactory in Tamil Nadu compared with that of West Bengal and Madhya Pradesh. Awareness on BMW segregation and disposal was average among health workers in the health facilities. Color-coded bins are placed at health facilities; sharps were being burnt in dedicated burners; needles were sterilized with appropriate solutions; and final BMW waste is packed, weighed, and disposed of through approved BMW facility operators.

VIII. ENVIRONMENTAL IMPACTS

32. The program will have minimum environmental impacts during construction and refurbishment of urban primary or community health facilities. Most of potential environmental impacts identified will be confined to the implementation phase. BMW generation is the significant environmental impact of the operation of UPHCs and UCHCs, followed by generation of plastic waste, waste water, air pollution and infections, contaminated water, and degraded sanitation. Added to them are construction waste, noise, dust and emissions and occupational hazards to which construction workers and health workers are exposed, but these are temporary in nature and limited to the construction sites and their surrounding areas during the construction phase. Poor drainage management, water pollution, construction debris blocking drains and non-functional washing and toilet facilities spread diseases.

33. The diagnostic assessment indicates that the program is likely to have some site-specific and reversible adverse environmental impacts, mainly during the operation phase of

its newly constructed and refurbished urban health facilities. As the program will apply a two-level screening process – program level and subproject level - to screen out civil works that may trigger significant environmental safeguards, the program is likely to have minimal or no adverse environmental impacts. Moreover, most of civil work of subprojects will be (a) small in size; (b) confined either to the footprint of existing building (in case of refurbishment) or to compounded state land (in case of new construction); and (c) will mostly generate temporary adverse environmental impacts. The diagnosis analysis confirmed the categorization of environmental impacts of the program as 'B'.

A. Construction Phase

34. Environmental impacts would be generated mainly during the construction of new UPHCs and refurbishing/upgrading of old UPHCs. These impacts are site specific. Under the program, there will be a range of new constructions, such as sub centers, operation theatres, labor rooms, maternity wards, testing laboratories and blood banks. Many diesel generators would be installed during the construction phase. Impacts during the construction phase will be typical of all medium-scale construction activities and are limited to the project sites. Environmental impacts and risks arising from the construction activities would be noise, dust, occupational hazards risks in handling electrical equipment, the lack of drainage management, water pollution and air pollution, construction debris which stress sanitary conditions, and inadequate and non-functional washing and toilet facilities. The short-term construction-related impacts and risks, and safeguard risks outlined above, can be prevented or mitigated by adopting standard operational procedures and good construction management practices.

B. Operation Phase

35. Several environmental impacts would be generated during the operation of health care facilities. These include generation of hazardous and infectious BMW, disposal of sharps, generation of plastic waste, generation of waste water, air pollution and generation of infections, contaminated water and degraded sanitation. Generation of BMW is the most significant environmental impact of UPHC operations. BMW consists of infectious wastes such as sharps (infected needles and syringes, surgical equipment, IV sets) infected blood, test kits used in laboratories, blood bags, human organs and parts, laboratory samples and pharmaceutical wastes. These wastes if not managed and disposed of well could generate significant environmental and public health risks. At present, BMW disposal is generally satisfactory, although at several examined locations, room for improvement was noted. BMW disposal guidelines are to be strictly enforced, and more resources are to be provided to health facilities to strengthen current collection, transport and disposal of BMW. Air and water pollution and plastic waste are to be handled by applying national and state laws and regulations and standard operational procedures prescribed for such activities.

IX. CONSULTATION, PARTICIPATION AND INFORMATION DISCLOSURE

36. The program is focused on the urban poor and vulnerable groups. It will develop primary health care facilities in consultation with such groups. Outreach program and the engagement of community organizations and NGOs in the program provide sufficient subproject information to all stakeholders including slum dwellers and other vulnerable groups. Stakeholder consultations that have already been held at several states included these groups in addition to other segments of the society. Such consultations enrich planning and design of

health facilities, improve public awareness of development objectives of subprojects, and promote project acceptability and transparency in operation.

37. People residing in a proposed subproject area should be consulted on the subproject impacts, especially of its impacts on slum dwellers. It was observed during sample focus group discussions held in several states that urban slum communities are willing to cooperate with the program as the proposed activities are supposed to enhance their access to free health facilities and thereby improving their living standards.

38. Each subproject will have an integrated approach for operation and maintenance. Active participation of local communities, NGOs and citizen groups with the support from the media will be ensured during project planning, implementation and monitoring. Several organizations, both government and non-governmental and at community level can participate in project implementation and monitoring.

39. The project monitoring will become meaningful only through public participation. Monitoring with the help the public can identify changes at the project sites and alert project authorities. In order to redress environmental issues likely to surface during construction and implementation phases, a communication strategy will to be established to bring project authorities and affected communities together. Meetings will be organized with project beneficiaries and other stakeholders at regular intervals after giving sufficient publicity to them.

40. Each subproject implementation entity will conduct information dissemination sessions pre-construction, construction and implementation phases to solicit local community help for the subproject and encourage their participation in environmental discussions as part of NUHM community processes and other public consultation activities. During program implementation, PMU and Department and Health Services will organize public meetings and consult the communities about the progress on the program implementation including any environmental issues included in the EMP.

X. INSTITUTIONAL ARRANGEMENTS

41. The Ministry of Health and Family Welfare (MOHFW) is the executive agency of the program. It provides an overall policy framework to direct and coordinate NUHM activities at the state level. It also provides guidelines for the preparation of PIPs and approval of annual PIPs, and funds for PIP implementation.

42. At the State level, the State Department of MOHFW will oversee the PIP implementation and also holds the responsibility for IMEP / quality assurance guidelines implementation. Principal Secretary (DHFW), Secretaries/Commissioners (H and/or FW) will manage NUHM activities. An officer will be assigned to monitor the application of IMEP / quality assurance guidelines. Each state provides the necessary physical infrastructure and manpower to implement the program and identify subproject sites, and manage risks associated with the program’s impacts.

43. State-level and ULB-level program management units are established to implement the approved PIPs. At the district level, the District Health Officer will be responsible for the application of IMEP / quality assurance guidelines. At health facilities, this responsibility will lie with the Hospital Superintendent or Medical Officer. IMEP / quality assurance nodal officers

will coordinate IMEP / quality assurance related activities and act as focal points to ensure its effective, successful application.

44. A key activity of each subproject is to carry out an environmental and social screening process. The MOHFW will engage a qualified Safeguard Monitoring Consultant for this task. The Consultant will conduct the screening in a two stage process – first by undertaking a desk review of PIPs. The Consultant will identify the facilities likely to have environmental impacts, based on their type and expenditure headers given in the Annual PIP. The Consultant will list them highlighting their potential environmental (and social) impacts. Second screening of information will be conducted on quarterly NUHM progress reports for civil works with status indicated as “Sanctioned” (other two status categories are: In Progress; and Completed). The Consultant will visit potential project sites to gather adequate evidence to verify, confirm and avoid facilities with potential environmental safeguard impacts.

XI. GRIEVANCE REDRESS MECHANISM

45. Environmental and social grievances will be handled together in order to make the overall NUHM grievance redress mechanism stronger and to avoid multiplication of committees at the subproject level. There will be two levels of grievance redress mechanism – The district level and the community level.

46. A grievance redress committee at the **District Health Society** (DHS) will deal with all grievances received regarding health facilities and their performance from all stakeholders. Its scope covers infrastructure, procurement, and administration. The committee comprises Heads and key members of Revenue and Administration Departments. In addition, the following will also be members of the committee:

(i) Officials responsible for infrastructure department within the Health Department;

(ii) A female representative from the health department;

(iii) NGO representative who works with the Health Department; and

(iv) Representatives of social groups such as slum dwellers, middle class residents in the subproject area.

47. The **community level grievance redress committees** will be responsible for receiving, recording and resolving grievances received from the public. The program will train DHSs and community grievance committee members in recording grievances of stakeholders, complaint resolution and monitoring of the progress of grievance resolutions. Organization of such committees will vary depending on existing mechanisms.

48. Functions of the community-level grievance redress committees are:

(i) Record grievances of affected persons, categorize and prioritize them, and provide solution to their grievances.

(ii) The GRC undertakes site visits, requests for relevant information from Health Department and other government agencies in order to resolve the grievances.

(iii) Fix a time frame for resolving grievances – the suggested timeframe is 45 days.

(iv) Inform grieved party through implementation agency about the status of the complaint and the resolution.

(v) If the grieved party does not agree with the resolution to forward the complaint to the district committee. The district committee will inform its decision or action the grieved party through the community level grievance committee

49. Each grievance redress committee at DHS will submit a quarterly monitoring report during the pre-construction and construction phases and a bi-annual progress report during the subproject implementation to MOHFW. These reports will include the summaries of the community level grievance redress committee activities.

50. For UCHC level, facility based grievance redress mechanism will be also available through the Rogi Kalyan Samiti (Patient Welfare Committee) / Hospital Management Society. The program will assess the effectiveness of community and facility based mechanisms, and will identify areas for strengthening under the program action plan (PAP 3.5 and 4.5).

XII. MONITORING

51. The IMEP policy framework and NUHM quality assurance guidelines require quarterly progress monitoring at all levels, i.e., district to state and state to MOHFW. The NUHM progress report should include information compiled in each health facilities and other IMEP / quality assurance implementation issues, and no separated report is required. By strengthening IMEP / quality assurance guidelines with environmental issues identified in the EMP, the regular monitoring process and HUNM progress report will include monitoring of environmental issues and management actions. The safeguard consultant will help NUHM develop appropriate monitoring templates for subprojects and indicators for state level and national level monitoring. The IMEP / quality assurance monitoring indicators will be part of NUHM MIS, too. The safeguard consultant will also help MOHFW to provide ADB with a bi-annual progress monitoring report which will highlight environmental issues, if any, and remedies apply to address them and their progress, based on the NUHM progress reports and MIS data.

52. Based on a review of these reports, during the annual independent procurement review of five selected states, the consultant will conduct a sample-based review of civil works with environmental issues to give extra assurance to MOHFW and ADB of adequacy of IMEP / quality assurance guideline implementation. The sample selected will include those subprojects with civil works which could generate potential higher risks, and subprojects with capacity/compliance issues. This independent review will complement and strengthen the state-level implementation audits of IMEP as per the policy framework or quality assurance guidelines.

XIII. STANDARD ENVIRONMENTAL MANAGEMENT PLAN

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
Construction Phase				
Health and sanitary services at worksites for worker gangs	Discharge untreated or insufficiently treated sewage would result in: (i) Contamination of drinking water (ground and surface). (ii) Spread of diseases.	Obtain building certification standards and meet requirements of the local government authority. Choose dry sanitation options or closed disposal systems instead of wet ones such as septic tanks or detention ponds. Ensure adequate sanitary facilities are provided and maintain them. Keep the prescribed ratio of male/female toilets. Maintain the drainage system cleanly without water logging.	Check whether there is building certification for the facility's sanitary facilities. Check whether there is adequate number of sanitary facilities. Check their maintenance level – poor, average, good.	Contractors Subproject authorities Municipality/local government bodies
Solid Waste	Lack of solid waste management on site can lead to the lack of general cleanliness due to waste material resulting from the demolition of old buildings. The waste material would be hazardous to the community's health and safety (i.e. injuries from corroded metal waste).	Deposal of solid waste according to the guidelines of the local authority. Make arrangements with the local authority for disposal of waste. Demarcate an area for waste collection until deposal within the construction premises. Practice waste minimization practices such as recycling and composting.	Spot checks and site observations on a quarterly basis. Solid waste storage is demarcated. All construction solid waste removed at end of construction.	Contractors Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
		Make arrangements with the local authority on disposal of solid waste generated during construction. Observations on cleanliness and good housekeeping practices onsite. Demarcated waste storage area in operation. Under no circumstances should the solid waste be burned on site.		
Groundwork of new structures	Soil erosion, excavation, poor spoil disposal	Soil damaged during the construction works should be restored to their original status. The construction or installation of electricity, and water supply networks should be executed according to approved plans and designs. Soil damaged by above works should be enhanced, levelled and vegetated	Visual inspection	Contractors Subproject authorities
Safe handling of asbestos	Health and safety hazards from loose asbestos fibers. Workers are vulnerable to theses hazards.	Where needed, only bonded asbestos cement sheeting that contains less than 20% of asbestos should be used in any construction under this project.	Sample checks Discussions with project contractors and Subproject authorities	Contractors Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
Dust pollution	Dust generation during construction activities may impact workers and communities in the vicinity. In urban areas, this risk is high.	Wet down and spray water in construction as required. Avoid dust emissions during loading and unloading of construction material.	Observations – controlled dust emissions and the spraying of water. Check whether the construction material is stored properly to avoid dust emission.	Contractors
Transport of construction materials	Transportation of construction materials may block the access roads and may lead to accessibility problems.	Construction material and machinery should not be placed in a manner that blocks any roads, paths or local accesses. Unloading of construction material should be carried in a manner and time so as to avoid blockage of roads/paths/access. Waste must not be placed on the roads.	Observation and field checks.	Contractors Subproject authorities
Noise pollution	Construction noise disturbs surrounding environment and communities.	Conduct work during daytime. Specify working hours and inform nearby communities Adhere to noise levels stipulated in state and national noise regulations. Consult residents living adjacent to construction sites on a regular basis to identify community complaints about noise, and seek suggestions from the community on how to reduce noise annoyance.	Noise at boundary should not exceed 55dB (A) or as specified under Union and state laws.	Contractors Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
		Use community suggestions to adjust work hours of noise generating machinery.		
Handling of heavy machinery and hazardous materials	Injury due to the lack of occupational safety measures and other health risks. Noise from cement pre-casting machines concrete, pilling may cause occupational health issues. Activities such as loading and unloading shuttering and metal poles and handling of heavy objects may result in accidental injury	Workers should adopt necessary safety measures. They should be trained beforehand in such measures. First aid provisions will be made available on site. Train operations and maintenance staff to monitor and repair machines. Repairs and proper maintenance will increase efficiency of the machines while reducing vibration and noise. Noise levels should be maintained within stipulated limits at construction site. Train workers on occupational risks involved in lifting heavy construction equipment and other occupation risks and safety measures at the project site. Train workers on managing risks, emergencies and on first aid.	Check whether first aid measures are available in the premises. Check whether the workers are using the safety gear provided. Check whether workers are dressed in appropriate and safety clothes.	Contractor Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
Air Pollution	Indoor air pollution could cause lung diseases Worksite air pollution disturb surrounding communities and expose them to various diseases In urban and highly populated locations escape of chemicals from worksites could be dangerous	Ensure proper storage and labelling of chemical substances. Protect them from evaporation. Use chemicals in strict accordance with the safety operation instructions. Ensure compliance with ventilation system approved for the building.	Monitor indoor air pollution at health facilities undergoing refurbishment. Consult nearby communities to assess air pollution levels. Check the levels of air pollution at selected locations.	Contractors Subproject authorities
Water storage and supply	Constructing a water storage facility could affect ground water and generate drainage problems within health premises. Using of water to clean construction equipment and construction work generate waste water in the premises, unless well planned. During subproject implementation, such waste water could cause health problems for patients, health staff and visitors.	Wells should be covered. Water Resources Board (WRB) to be consulted on appropriate extraction levels. Well water should be periodically monitored for their quality and quantity. Dug wells should maintain at least 2 meters of water depth to maintain drinking water quality. To ensure minimal wastage of water, train maintenance and operation staff to monitor and repair leaks from broken pipes, faulty valves, and similar structures. A suitable sump and overhead tank should be	Review water extraction rates and cross check with WRB recommendations. Periodic water quality testing	Water Resources Board/ National Water Supply and Drainage Board Contractors Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
		constructed taking into account the daily requirement of water to ensure uninterrupted water supply.		
	Unprotected wells can lead to safety and health issues.	Dug well(s) within the premises should have a protective wall and appropriate covering to prevent external materials from entering the well.	Visual checks – check whether wells are well protected and maintained.	Contractors Subproject authorities.
	Arsenic contamination in drinking water may case health related problems.	Analyze local surrounding arsenic test results and determine whether tube-wells are safe source of water. Adopt rain water harvesting, ponds and filter, piped water supply. After installation of tube-wells, presence of arsenic in the drinking will be tested following Indian standards.	Water Quality Test Reports.	Water Resources Board Medical Officer of Health/ Public Health Inspector
Operation and Management Phase				
Domestic liquid waste disposal	Lack of disposal of domestic waste water will result in health issues to workers, health staff, patients and visitors.	Ensure that wastewater is directed to soakage pits in conformance to local authority guidelines. Build soakage pits at appropriate locations and maintain them regularly	Check the design plans for cesspits and soakage pits. Visual inspections	Local authorities Subproject authorities
Hazardous waste disposal	Lack of a disposal mechanism for chemical waste may pollute surface water resources and land. Potential for increase health risk of health staff, patients and visitors.	Disposal of chemical waste according to the stipulated guidelines on Hazardous waste regulation. Explore private and public partnership on disposal	Check the adoption of existing disposal guidelines and plans. Visual inspections.	Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
	Lack of a disposal mechanism for computer and information technology-based waste management.	mechanism of hazardous waste for a nominal fee. Prepare a check list and standard mechanism for disposal of hazardous chemical waste. Establish a central deposit for collected hazardous waste so that disposal will be easier.		
Bio and chemical waste	Lack of properly designed disposal mechanisms for chemical and bio-waste may lead to contamination of surface and ground water resources. Lack of safety measures could cause fire and increase occupational safety hazards. Expose workers to toxic and carcinogenic materials such as heavy metals, dyes, solvents, and acids. Lack of properly designed disposal mechanisms for chemical waste may lead to contamination of surface and ground water resources.	Ensure regular maintenance of gas tubes and taps to ensure the maintenance of fume cupboards. Provide safety measures such as good ventilation and thermal circulation. Install fire extinguishers and maintain them periodically. Prepare a time table to check extinguishers. Display laboratory safety manual so that health staff can follow. Provide safety wear - face mask, goggles, noise isolating ear plugs. Plan for use, handling, storage, and disposal of different waste types – normal, hospital, infectious and chemical.	Check the adoption of disposal guidelines and plans.	Contractors Subproject authorities

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
		Label them for easy identification		
Sanitary facilities	Discharge of untreated or insufficiently treated sewage, and lack of maintenance of sanitary facilities may lead to: Contamination of drinking water (ground and surface). Spreading of diseases among nearby communities and settlements.	Ensure proper maintenance of sanitary facilities. Train maintenance and operation staff to monitor and repair leaks broken pipes, faulty valves and similar structures. Provide a suitable sump and overhead tank, taking into account the daily requirement of water to ensure uninterrupted water supply to sanitary faculties. A minimum distance of 15 meters should be maintained between a tube-well and a latrine to prevent contamination of water resources. In case of shallow hand tube-wells, this distance should be 20 meters as horizontal filters are used in this type of tube-wells. Water supply should available in toilets with proper utensils to use it.	Observation and site reports to check the proper maintenance of pipes at sanitary facilities.	Contractors Subproject authorities Municipality

Activity/Impact Factor	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party
Food stall/canteen	Lack of food waste management may lead to land and water contamination Increase vector borne diseases Obscure aesthetic beauty of health facility environment and give rise to odor.	Adopt domestic waste management mitigation measures discussed above.	Visual inspections Check building plans to ascertain whether canteen is included in design plans.	Subproject authorities Municipality Public Health Inspectors of ULBs
	Lack of training in canteen commodity handling can cause wastage and hygiene issues.	Provide training in food handling to minimize wastage. Ensure that food handlers maintain personal hygiene. Inform the supervisor in case an employee is sick or has an injury. Maintain good house-keeping practices as per the Food hygiene regulations.	Check for compliance and adoption of prescribed procedures.	Subproject authorities Public Health Inspectors

ANNEX 1

INFECTION MANAGEMENT AND ENVIRONMENTAL PLAN: POLICY FRAMEWORK

Chapters of the Policy Framework

1. Infection Control
2. Treatment and Disposal of Bio-Medical Wastes
3. Segregation of Waste and Onsite Storage
4. Transportation of Bio-Medical Wastes
5. Handling Sharps
6. Use and Disposal of Auto-Disable (AD) Syringes
7. Use and Sterilization of Glass syringes
8. Mercury Waste Disposal
9. New Healthcare Facility – Site Selection
10. Healthcare Facilities – Guidelines for Design
11. Construction Management Guidelines
12. Drug Expiry Management
13. Awareness and Training
14. Monitoring & Evaluation
15. Action Plan

ANNEX 2

OPERATIONAL GUIDELINES ON QUALITY ASSURANCE IN PUBLIC HEALTH FACILITIES

A. Area of concern: F – Infection Control

1. The first principle of health care is “to do no harm”. As public hospitals usually have high occupancy, infection control practices become critical to avoid cross-infection and its spread. This area of concern covers Infection control practices, hand-hygiene, and antisepsis, personal protection, processing of equipment, environment control, and biomedical waste management. Following are the Standards applicable.

Standards for Infection Control

Standard F1 The facility has infection control program and procedures in place to prevent and measure hospital-associated infection	Standard F1 is concerned with the implementation of Infection control program at a health facility. It covers functional infection control committee, microbiological surveillance, measurement of hospital- acquired infection rates, periodic medical check-up and immunization of staff and monitoring of Infection control Practices.
Standard F2 The facility has defined and implemented procedures for ensuring hand hygiene practices and antisepsis	Standard F2 is concerned with practices of hand-washing and antisepsis. Availability of hand washing facilities with soap and running water are to be provided at each location where hand washing is expected.
Standard F3 The facility ensures standard practices and materials for personal protection	Standard F3 is concerned with usage of personal protection equipment (PPE) such as gloves, ask, and aprons. Interaction with staff will reveal the adequacy of supply of PPE.
Standard F4 The facility has standard procedures for processing of equipment and instruments	Standard F4 is concerned with procedures regarding equipment and instruments. It includes standards for adequate decontamination, cleaning, disinfection and sterilization of equipment and instruments.
Standard F5 Physical layout and environmental control of the patient care areas ensures infection prevention	Standard F5 pertains to environment cleaning. It assesses whether lay out and arrangements are conducive for infection control. Environment cleaning processes such as mopping of OT and ICU are to be regularly observed.
Standard F6 The facility has defined and established procedures for segregation, collection, treatment and disposal of bio medical and hazardous Waste.	Standard F6 is concerned with the management of biomedical waste management including its segregation, transportation, disposal and management of sharps. Availability of equipment and practices of segregation can be directly checked. Staff should be interviewed about the procedure for management of needle stick injuries. Storage and transportation of waste should be checked and records should be verified.

B. Area of Concern - F: Infection Control

Measurable Elements

Standard F1	The facility has infection control Program and procedures in place for prevention and measurement of hospital associated infection
ME F1.1	The facility has functional infection control committee
ME F1.2	The facility has provision for passive and active culture surveillance of critical and high risk areas.
ME F1.3	The facility measures hospital associated infection rates
ME F1.4	There is periodic medical check-up and immunization of staff.
ME F1.5	The facility has established procedures for regular monitoring of infection control practices.
ME F1.6	The facility has defined and established antibiotic policy.
Standard F2	The facility has defined and implemented procedures for ensuring hand hygiene practices and antisepsis.
ME F2.1	Hand washing facilities are provided at point of use
ME F2.2	The facility staff is trained in hand washing practices and they adhere to standard hand washing practices.
ME F2.3	The facility ensures standard practices and materials for antisepsis.
Standard F3	The facility ensures standard practices and materials for Personal protection
ME F3.1	The facility ensures adequate personal protection Equipment as per requirements.
ME F3.2	The facility staff adheres to standard personal protection practices
Standard F4	The facility has standard procedures for processing of equipment and instruments.
ME F4.1	The facility ensures standard practices and materials for decontamination and cleaning of instruments and procedures areas.
ME F4.1	The facility ensures standard practices and materials for disinfection and sterilization of instruments and equipment
Standard F5	Physical layout and environmental control of the patient care areas ensures infection prevention.
ME F5.1	Layout of the health facility is conducive for the infection control practices
ME F5.1	The facility ensures availability of standard materials for cleaning and disinfection of patient care areas
ME F5.1	The facility ensures standard practices are followed in cleaning and disinfecting patient care areas
ME F5.1	The facility ensures segregation of infectious patients
ME F5.1	The facility ensures good air quality in high risk areas
Standard F6	The facility has defined and established procedures for segregation, collection, treatment and disposal of bio medical and hazardous waste.
ME F6.1	The facility ensures segregation of bio medical waste and 'onsite' management of waste is carried out as per guidelines
ME F6.1	The facility ensures management of sharps as per guidelines.
ME F6.1	The facility ensures transportation and disposal of waste as per guidelines.

Source: Operational Guidelines for Quality Assurance in Public Health Facilities, 2013.