



**Government of Gilgit-Baltistan  
Gilgit-Baltistan Environmental Protection Agency  
(GB-EPA)**

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**ORIENTATION SESSION ON INTEGRATED HOSPITAL WASTE  
MANAGEMENT, CITY HOSPITAL GILGIT  
(MARCH 18<sup>TH</sup>-20<sup>TH</sup>, 2017)**



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**GB-EPA**

*Orientation Session on Integrated Hospital Waste Management: City Hospital, Gilgit.*

## **ACRONYMS**

<b>WHO</b>	World Health Organization
<b>IHWM</b>	Integrated Hospital Waste Management
<b>DHQ</b>	District Head Quarter
<b>GB-EPA</b>	Gilgit-Baltistan, Environmental Protection Agency
<b>MS</b>	Medical Superintendent
<b>DMS</b>	Deputy Medical Superintendent



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## **ACKNOWLEDGEMENT**

Our warmest gratitude to ***“Honorable Mr.Latif, Medical Superintendent City Hospital Gilgit”*** who dignified the event despite of his busy schedule. Moreover, we are thankful to our presenters for enlightening the audience with their knowledge and experiences. Likewise, our sincere appreciation to all the participants who contributed a great deal in making the event successful. Most prominently, staff of DHQ, Hospital for their valuable assistance and support throughout the commencement.



## **BACKGROUND**

The management of Hospital Waste continues to be a major challenge, particularly, in most healthcare facilities of the developing world. Poor conduct and inappropriate disposal methods exercised during handling and disposal of HWN is increasing significant health hazards and environmental pollution due to the infectious nature of the waste.

Hospitals in Pakistan produce about 250,000 tons of waste per year, which has been reported to be poorly handled and managed by the hospital staff and administration respectively. Almost all of the hospitals in Pakistan do not have practice of HWM on their priority. Segregation, handling, storage, transportation and disposal of waste were below WHO and Pakistan bio-safety rules 2005 standards.

Gilgit-Baltistan region like other provinces of Pakistan, faces serious environmental issues amongst which environmental pollution and sanitation could be ranked as top in the last two decades. Increasing population, unplanned haphazard development, rural urban migration to avail better opportunities of jobs, education and medical facilities are the key factors of environmental pollution.



## 1. Introduction

Economic activities are growing at a very fast rate in urban centers of the region, which along with population increase, have strained the region's existing services and utilities and exposed critical gaps in the region's urban infrastructures. As a result, most of the services are failed to address the basic needs of the population associated with environmental sanitation. Solid waste collection and disposal is one of key issue of environmental sanitation in the region. The solid waste generated in urban areas is managed by municipal corporations in respective district headquarters. The common solid wastes in the towns are plastic shopping bags, paper wrappers, vegetables/fruits wastes, disposable bottles of water, cola/canes and tetra packs etc. Besides these household kitchen wastes, tourists, markets, poultry shops, barbershops, butchers and automobile workshops are the major sources of solid wastes in the town areas. The existing sanitation and waste disposal system cannot cope with the volume of solid wastes generated by the growing population in major towns of the region. More importantly the solid wastes generated by hospitals are not properly dumped and disposed off. Hospital wastes plus other wastes are being dumped in open air near water bodies making the environment more polluted and the people more susceptible to various contagious diseases. Municipal Committees have no or very limited machineries/tools/equipment and financial and human resources for safe disposal of these wastes.

Gilgit-Baltistan Environmental Protection Agency (GB-EPA), since its establishment in 2007, is trying to address the key environmental issues of the region including municipal and hospital waste management. A survey in 2012 on solid waste management revealed that there is no proper solid waste management system in all urban centers of the region. The situation in hospital is the worst where all kind of waste including infectious one are being thrown in open areas nearby hospitals. The municipal corporation is taking this infectious waste from dumping sites for disposal at open dump sites nearby Gilgit river along university road Konodass. This indiscriminate disposal of hospital waste in surrounding of human settlements and hospitals are the potential source of environmental diseases and nuisance.

Hospital waste management in Gilgit-Baltistan, like other parts of the country, is the most neglected area health authorities and other responsible agencies due to ambiguous roles, lack of capacities and understanding of prevailing Hospital waste management laws and procedures. The current document named as Hospital Waste Management Plan is a soft component of hospital waste management initiative of GBEPA started in five hospitals of Gilgit-Baltistan. The project aims to demonstrate a robust and environmentally safe hospital waste management systems matching to the local needs and requirements according to hospital waste management rules 2005 approved by federal government and extended to Gilgit Baltistan in 2007.

Absence of solid and hospital waste management and safe disposal has been contaminating the underground water, blocking the sewers and irrigation channels and contributing to Greenhouse Gases due to burning of solid waste at dumpsite. The deteriorating conditions of DHQs in GB is evident and through a development project "Baseline Studies for Environmental Parameters in GB", GB-EPA has completed baseline surveys and reports are printed for solid waste, air and noise pollution and water and wastewater. The quantification of solid waste showed that about 0.5 kg/capita/day that is about 50 tons of solid waste is generated in Gilgit



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City only. The landfilling of solid waste is not an environmental friendly option; however, to explore other options like reuse, recycle and composting etc. it needs to develop scientific proposals to attract donors and investors. In this context GB-EPA has developed Hospital Waste Management plans on the basis of segregation, handling and transportation to make the process more streamline. A two-day training session was held at each Hospital in which staff are made aware of their duties as per HWM-plan.

## **2. Objectives**

1. The objectives of session were:
2. To made staff well aware of the prepared HWM-Plan
3. To give a complete picture of responsibilities at different level
4. To probe the preset ways of waste management.
5. To know about the problems/flaws within the system.

### **Date & Venue:**

City Hospital, Gilgit was the venue for orientation session took place on March 18<sup>th</sup> and 20<sup>th</sup>. For support staff and Management staff orientation sessions were conducted separately on the said dates one-to-one.

### **Participants/Target Groups:**

Hospital support staff and Management staff which are immediately involved in the waste management. Two-day program in each Hospital was arranged, one-day program for support staff and management staff.



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### 3. Proceedings

#### Day 1: Support Staff

The event was formally started around 12:15 am, with the Recitation of Holy Quran. Mr. **Khadim Hussain Assistant Director GB-EPA** addressed the audiences. Initially, he welcomed all the staff and highlighted the objective of the session; and a brief background of intervention for proper management of the Hospital Waste Management. He said GB-EPA has established Integrated Hospital Waste Management System in 5 district head quarter hospitals namely DHQ Gilgit, Kashorte Hospital, DHQ Hunza/Nagar, DHQ Chilas and DHQ Skardu and completed the installation of incinerators at designated Hospital. The Agency has developed Hospital Waste Management Plan and Standard Operating Procedures for each hospital; and shared with authorities. Furthermore, he said, every hospital is responsible for proper management of the waste generated by it till its final disposal. Hospital waste management team is responsible for the preparation, monitoring, periodic review, revision or updating, if necessary, implementation of the waste management plan and for supervision of the all the actions taken for waste management. A collaborative action is needed to be taken to get maximum benefit from this intervention.



*Figure 1: Consultant and GB-EPA Team with support staff City Hospital.*

#### Technical Session

Technical session began with the introduction of all staff. **Mr. Haider Raza consultant, GB-EPA** started his presentation by giving the background of IHWM plan draft given prior to hospital. He discussed the plan with staff, and asked the relevant staff about their duties and responsibilities in managing hospital waste. He showed pictorial evidence of waste dumping at different sites within the hospital premises and



*Figure 2: Discussing staffs responsibilities and roles.*

comparison of pre and post intervention conditions. He further asked the support staff about the types of waste generated and their current disposal mechanism. Key components of the Hospital Waste Management i.e. segregation, collection, Transportation and safe disposal of waste were discussed. He mentioned the duties and responsibilities of concerned staff to segregate the waste at the point of generation. Collection mechanism at Ward level, Laboratory, Operation Theater and Labor Room was presented by consultant on flip charts in local language to make it easy to understand for support staff. Relevant staff at Ward level,





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Laboratory, Operation Theater and Labor Room are Shift Incharge, Pathologist/laboratory shift incharge, and Duty Surgeon respectively, will be responsible to designate sweepers, timely collection of waste and to ensure shifting of waste to secondary waste collection point in sealed color coded bins. Furthermore, he mentioned the transportation mechanism inside hospital will be done in two stages. Waste from wards will be primarily collected by wards sweepers and dumped in the secondary points, the waste dumped at secondary waste collection points in color coded sealed bags will be collected by the sweepers. Sweeper will take these color coded bags in waste trolley from each secondary collection point situated at different locations of the hospital premises to final disposal point. In Disposal mechanism, Hospital waste brought at disposal point will be segregated by transporting sweeper under the supervision of incinerator operator. The operator will weigh the risk (infectious and special waste) and no risk (General non-hazardous waste) bags, place red and yellow coded color bags for incineration at assigned place; and green color bags at transfer station for further disposal at landfill site. Plant operator will responsible to fill data sheet after weighing the color coded bags accordingly.



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## Day 2: Management Staff

The event was formally started around 10:30 am. **Mr. Khadim Hussain, Assistant Director GB-EPA** welcomed the guest Dr. Latif MS City Hospital and all management staff for their participation. Initially, he highlighted the objective of the session is to train hospital administration and staff about hospital waste management practices. He said GB-EPA has established Integrated Hospital Waste Management System in 5 district head quarter hospitals namely DHQ Gilgit, Kashorte Hospital, DHQ Hunza/Nagar, DHQ Chilas and DHQ Skardu and completed the installation of incinerators at designated Hospital. The Agency has developed Hospital Waste Management Plans and Standard Operating Procedures for each hospital and shared with health Authorities. Furthermore, he said, it is the responsibility of every hospital to properly manage the generated waste till its final disposal. Hospital waste management team is responsible for the preparation, monitoring, periodic review, revision or updating, if necessary, implementation of the waste management plan and for supervision of the all the actions taken for waste management. A collaborative action is needed to be taken to get maximum benefit from this intervention.



*Figure 3: Mr. Khadim Hussain, Assistant Director GB-EPA briefing about the intervention.*

## Technical Session

**Mr. Haider Raza consultant, GB-EPA** started his presentation by giving the background of IHWM plan draft given prior to hospital. A base line survey was conducted by GB-EPA to analyze the generation of Hospital Waste, it was estimated that City Hospital 50kg/day, out of this hazardous waste generated is 5-15 kg. Hospital Waste Management plan for each hospital in GB was formulated in consultation with the MS and staff, meetings with waste handlers and ward in charge, field surveys and Hospital Waste Management Rules 2005, WHO guidelines for medical waste management, GB-EPA Hospital Waste Study and Gilgit-Baltistan Environmental Protection Act 2014 as base documents. He mentioned the findings of baseline survey in which he highlighted the challenges i.e. lack of basic management principles, lack of appropriate technology and medical waste management, economic constrains, no policy and technical guidelines for hospital waste management. He further mentioned key components of the Hospital Waste Management i.e. segregation, collection, transportation and safe disposal of waste. Collection Mechanism at



*Figure 4: Mr. Haider Raza Consultant GB-EPA discussing the Hospital Waste Management Plan with administrative staff of city hospital.*



Ward level, Laboratory, Operation Theater and Labor Room, the duties and responsibilities of concerned staff to manage waste was briefly discussed. According to Hospital waste management rules 2005, it is mandatory for MS of hospital to notify the hospital waste management committee for safe handling and Disposal of Hospital waste. He discussed in detail the structure and responsibilities of Hospital Waste Management Team and MS of the hospital will be chairman of the team, Head of Departments, representative of GDA, District Administration and GB-EPA as members and Administrator as a secretary of the committee. He showed pictorial evidence of waste dumping at different sites within the hospital premises and comparison of pre and post intervention conditions and said that previously city hospital fall under the very poor system of hospital waste management and still conditions are not satisfactory. We have policy and guidelines for management of hospital waste and we only need implementation and adequate resources to achieve the intermediate and then advance system of waste management.

**Dr. Latif MS City** Hospital thanked GB-EPA on behalf of his staff, for organizing the session. He said that waste management in City Hospital is not satisfactory because of some key issues, but we are still trying our best to manage waste properly. He said we don't have enough support staff including sweepers, watchmen, security guard, technicians and the most important incinerator operator and waste management officer to manage the waste according to the plan. He requested for provision of PPE's and organize training for incinerator operator. After discussion with all staff, he recommended to add Dental Department and Gynecology in the proposed plan and provide support to fix the non functional incinerator.



*Figure 5: Current situation of waste in City Hospital and non-functional incinerator.*

#### **4. Grievances/Issues:**

The participants of the session took active part and raised various issues. The main issues/suggestion raise during the discussion are as under;

1. Waste from labor room, laboratory was not properly segregated sometimes which create problem for incinerator operator.
2. No syringe cutters and sharps are disposed directly into bins.
3. Staff is not being vaccinated.
4. Open dumping of waste in hospital premises without segregation.
5. Incinerator is not functional to dispose off special and infectious waste in proper way.
6. Sweepers and Nursing staff are insufficient to properly manage the waste generated as the number of patient increases day-by-day.
7. More trained staff for proper working of incinerator.
8. No provision of Personal Protective Equipment.
9. Plastic bags are not properly used for segregation/collection of waste and shift issues.





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### Pictorial View

#### Day 1: Support Staff





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## **Day 2: Management Staff**

