



Turning the Tide on Biomedical Waste in Bangladesh

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In the Sirajganj District, biomedical plastic waste has long been an unmanaged crisis. During the COVID-19 outbreak, Bangladesh generated 14,500 tons of medical waste in a single month, most of which was improperly disposed of. Even today, only a few of the 515 healthcare facilities in the district have structured waste management systems, leaving hazardous waste, including infectious plastic materials—dumped unsafely, increasing health and environmental risks.

The project began with a baseline survey in 2022, which revealed the severity of the problem—over 82,215 kg of infectious plastic waste was being generated every month. This data highlighted the need for immediate intervention. A comprehensive strategy was developed, focusing on waste segregation, collection, and treatment. Dialogue sessions were conducted with healthcare owners to raise awareness, while structured training programs were introduced for healthcare staff. A group of leaders was also trained to further educate and guide facilities in proper waste handling.



Biomedical waste is improperly discarded without proper measures or facilities.



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To address this, the Directorate General of Health Services (DGHS), Department of Environment (DoE), and UNIDO, under the leadership of the District Medical Waste Management Committee (DMWMC), launched a pilot project in Sirajganj. With financial support from the Royal Norwegian Embassy Dhaka and collaboration with Sirajganj Municipality and SAPNO, a local NGO, this initiative introduced the first district-wide biomedical waste management system in Bangladesh, designed to serve all healthcare facilities across nine upazilas or sub districts.



Training Workshop for Healthcare Service Providers, Sirajganj

To ensure a long-term solution, a Common Treatment Facility was planned with contributions from multiple stakeholders. UNIDO provided technological support, Sirajganj Municipality allocated land, and SAPNO developed infrastructure, including a waste treatment shed, utility services, an effluent treatment plant, and waste transport vans. The healthcare facilities themselves contributed to capital investments and monthly service charges based on waste generation, creating a self-sustaining system.

At the heart of the initiative are two advanced waste treatment technologies, an autoclave and an incinerator—which were approved in 2024 after technical assessments by UNIDO and DGHS. These systems are designed to sterilize and safely dispose of hazardous waste while enabling plastic recovery for recycling. With procurement underway, the facility is set to become operational in 2025, making it the first district-wide biomedical waste management center in Bangladesh.



Autoclave and Incinerator Models

Beyond infrastructure, the project has focused on capacity-building and knowledge transfer. A total of 90 healthcare professionals and 20 master trainers have been equipped with essential skills in waste segregation, handling, and disposal. This initiative is expected to impact over 2,500 healthcare workers across Sirajganj, ensuring standardized waste management practices throughout the district. Additionally, an international training program in Sri Lanka was introduced, allowing key personnel to observe and learn from similar large-scale treatment facilities.



Meeting with DGHS, Sri Lanka Training

Integrated Approach Towards Sustainable Plastics Use and Marine Litter Prevention in Bangladesh



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