

Environmental Sustainability and Solid Waste Management: Insights from GilgitBaltistan, Pakistan

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Abstract

Solid waste management (SWM) is a crucial responsibility of city administrations and serves as an effective indicator of good governance globally. Effective SWM reduces health and environmental risks, conserves resources, and enhances urban livability. However, unsustainable SWM practices, intensified by rapid urbanization and financial and institutional constraints, adversely affect public health and environmental sustainability. This review article examines the human and environmental health impacts of SWM practices in the major cities of Gilgit-Baltistan, a region that was once a naturally livable place. Utilizing a desktop research methodology, the study conducts an in-depth analysis of secondary data and literature, including official documents from government ministries and published articles. The study finds that typical SWM practices involve mixing household and commercial waste with hazardous materials during storage and handling. Waste is usually stored in outdated or poorly maintained facilities, such as storage containers, while the transportation system is often inadequate and informal, lacking a proper framework. Predominant disposal methods include uncontrolled dumping, open-air incineration, and landfilling. These practices lead to air and water pollution, land degradation, methane emissions, and hazardous leachate, all of which contribute to climate change, a significant challenge today. These negative impacts impose substantial environmental and public health costs, particularly affecting marginalized social groups. The paper concludes by offering recommendations to reduce the public and environmental health risks linked to the current SWM practices in Gilgit-Baltistan.

Keywords: climate change; commercial waste; environmental health risks; uncontrolled dumping; urban livability