

# Recycling and Waste Management

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### **Municipal Solid Waste Management practices and its relation to Climate Change**

**M**unicipal Solid Waste Management (MSWM) has become one of the most complex global environmental issues for urban areas in different countries of the world. It was considered the third largest source of methane in the environment, accounting for approximately 3-4% of global anthropogenic greenhouse gas emissions. MSW is a very complex system, and misuse of any technology or disposal may contaminate soil and water with chemicals and lead to climate change. This paper examines the challenges of MSWM faced by developed and developing countries and how policies are implemented in practice. Investigations have been conducted to understand the factors and barriers affecting the MSWM in developing countries and the causes that make developed countries successful in this sector. Low-income countries have the highest proportion of organic waste, while in high-income countries; it mostly consists of inorganic substances. The study found that IMSWM has many stakeholders and municipalities are subject to social, political, institutional, financial, economic and technical factors as well as land availability. By addressing all these factors, municipalities should move to the smart waste treatment, which includes the circular economy approach to their waste policies. Solid waste minimization, separation at the source and recycling should be implemented, given the

high rates of recyclable materials. Any technology should take into account appropriate infrastructure, pollution control system, maintenance, development and follow-up of the requirements and regulations of the country. Achieving that will not be easy and the involvement of all stakeholders and with full coordination among them will be required.

#### **Speaker Biography**

Mervat El-Hoz is the Chairperson of Environmental Engineering Program at the Department of Civil and Environmental Engineering of the University of Balamand, Lebanon. She graduated from the Middle East Technical University, Turkey as Environmental Engineer and obtained her PhD from the University of Sydney, Australia in the same field. She received many international and national Honors and Awards in the field of Solid Waste Management and Environmental in general. She is Author of over 100 scientific publications in international journals and conference proceedings: scientific papers, key-note speaker lectures, chapters in books and technical reports. She is a member of the Editorial Board of many International Journals, and scientific committees in international conferences 2002. She is a guest lecturer at various universities in the United States and the Arab countries. She served as senior environmental expert at the World Bank, Council for Development and Reconstruction on Solid Waste / Environmental Management, Lebanon (1998 – 2002); as an environmental expert, local coordinator, technical leader and trainer for EU, UNDP, and USAID projects in solid waste, water, wastewater, and air pollution.

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