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Editorial

Advanced Perspectives on Waste Recycling for Sustainable Ecosystem

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Rapidly expanding world population, globalization, and liberalization are driving the demand for more and diverse products resulting in an even greater amount and type of waste generation. The used and discarded electronic products and materials with recyclable potential are increasing in quantity all across the world. This is posing new challenges for environmental, social, and economic sustainability. However, these challenges can be considered asnovel opportunities for generating useful products and services. Therefore, currently, the research focus is on developing new technologies, policies and regulatory mechanisms for the management of reusable and recyclable waste. For example, some elements are scarce and difficult to be extracted from the natural environment such as phosphorus and rare earth metals. These elements can be readily recovered from waste streams containing processed and discarded matter. Extractions can also be done from a potential resources available including both domestic and industrial effluents and from mine waste. Recovery of fertilizers from used agricultural water and the conversion of organic waste into compost for use in agriculture could also be done.Sustainable protocols and conversion systems for food wastetoenergy also havethe potential for sustainable energy. Moreover, industrial, commercial, institutional, and residential waste sources can potentially be converted into electrical, thermal, and or steam for various applications.

International Journal of Waste Resources is an ideal knowledge exchange platform for policy-makers, waste resource managers, and researchers dealing with the management of organic, inorganic, and electronic waste. The journal focuses on the emerging waste management problems and other contemporary issues of environment and ecology arising due to municipal, industrial, solid & liquid waste as well as the scientific, technological, biological, environmental remedial measure even while addressing the economical, social, legal, and political aspects of waste management. Articles are solicited that present solutions for environmental issues for waste reduction, recycling, resource recovery, anaerobic digestion, composting, carbonization, and gasificationand safe disposal systems. The coverage of the journal includes a wide range of relevant topics that include recycling, physical & chemical processing, treatment of solid waste, incineration, pyrolysis, energy conversion, disposal of hazardous waste and landfill. The audience of the journal includes engineers, academicians, decision makers, policy makers, scientists, environmentalists, ecologists, conservationists, engineers, academicians and students. The journal aims to facilitate a global solution for the contemporary problems and challenges suchas environmental and health hazards arising out of wasteaccumulation and presents the implications of the current research and development activities. The journal promotes scholarly communications on various approaches, evaluations, methodologies, and advanced studies about waste recycling and management. The journal promulgates vital concepts, advanced solutions having a global perspective, theoretical concepts, practical applications, and insightful case studies.

In this issue, the journal has published some very impactful research articles on waste management in theIndian context; separation of oiland water emulsion using a composite membrane; digital waste exchange platform; and conversion of biomaterial waste into energy conversion. Management of solid waste is always a great challenge in the cities and urban agglomerations where there is always an increase in the waste output. If not managed with advanced planning it may pose danger to environmental sustainability, hygiene and sanitation. Especially in the context of increased waste collection inlets and efficiency, waste management assumes even greater importance. Aditya [1] has emphasized the transition of the economy from linear to circular that enables the closing of the material loops in the urban settings. Oil spills and water pollution are very challenging and it poses threat to the environment. Ponnanikajamideen et al. [2] demonstrated separation of oil and water using super hydrophobic and superoleophobic cellulose acetate membrane and found that the membrane was showing good hydrophilic property with more than 95% efficiency of oil separation from water and further suggestits industrial application.In the context of ever-increasing urbanization and waste generation, a digital waste exchange platform facilitates a circular economy along with conservation of resources and economy and decreases the burden on natural resources. Aditya [3] formulated a framework for such digital platform and analyzed based on International literature for application within the Indian scenario and further emphasized guidelines and policy development on safety and legal issues of such platforms.Loss of Carbon uptake, higher usage of non-renewable fuels, environmental degradation and global warming are some of the most prominent environmental issues that need to be addressed immediately. Aguko et al. [4] ascertained the potential of

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bioenergy material based on local characteristics in the Nile basin. The study suggested that water hyacinth, sawdust and fecal matter can be converted into bioethanol, biogas, and briquettes having potential for meetings the energy needs and such provision concomitantly provides options for waste management pollution reduction,and environmental sustenance. The study further identified sugarcane bagasse, market waste, rice husk, stalks, and grass as potential bioenergy and renewable energy sources. These peer-reviewed articles are highly significant in developing and optimizing novel strategies and mechanisms for waste conversion into useful products and services.

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