WASTE MANAGEMENT

FOR ENVIRONMENTAL SUSTAINABILITY

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PREFACE

Welcome to the book titled "WASTE MANAGEMENT FOR ENVIRONMENTAL SUSTAINABILITY." This comprehensive volume stands as a collaborative effort to address one of the most pressing challenges of our time - the effective management of waste in pursuit of a more sustainable world. Waste, in its diverse forms, has emerged as a critical global issue that demands immediate attention, innovative solutions, and collective action.

As the editors of this book, we have invited several scholars, experts, and enthusiasts from diverse backgrounds whose expertise is in the varied field of waste management to contribute their knowledge, insights, and research findings to this collective endeavor. This book aims to encapsulate a holistic view of waste management by navigating the areas of methodologies, technologies, applications, and the imperative for change.

In a world, where there is an escalating environmental concern, resource scarcity, and climate change, adopting sustainable waste management practices has never been more critical. This book attempts to bridge the gap between both theory and practice, offering a repository of information, strategies, and case studies that inspire actions and pave the way for a cleaner and greener future.

Our vision for this book is to create a valuable resource that not only sheds light on the existing challenges in waste management but also researches the opportunities that lie within those challenges. By exploring the methodologies for waste characterization, the intricacies of waste treatment, and the implementation of innovative technologies, we hope to empower readers to make informed decisions, engage in meaningful discussions, and drive positive change within their spheres of influence.

Each chapter in this book represents a piece of the puzzle which is waste management. From sustainable waste management systems to specific topics like food waste collection, organic waste treatment, and futuristic technologies, the chapters collectively offer a comprehensive roadmap toward a more sustainable future.

We sincerely thank all the authors who have graciously accepted our invitation to contribute their expertise to this volume. Their dedication to advancing knowledge in waste management is invaluable, and we are confident that their contributions will enrich the academic and professional discourse in this field.

Furthermore, I extend my gratitude to the Department of Home Science at the University of Rajasthan for their support and encouragement in bringing this project to fruition.

I encourage readers to explore the chapters within this book, absorb the insights, and contemplate the urgency of waste management in shaping a better tomorrow. Together, let us embark on this journey to explore, learn, and collaborate towards a world where waste is not just managed, but harmonized with the principles of environmental sustainability.

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Prof. Sunita Agarwal

As the Head of the Department of Home Science at UOR in Jaipur, she has a career spanning over 36 to 37 years. Throughout her tenure, she has been a guiding light for numerous scholars, successfully supervising 5 Ph.D. candidates and currently mentoring 4 ongoing Ph.D. candidates. Her research expertise lies in the fields of Waste Management, Vermiculture, Health, Hygiene & Sanitation. Collaborating with esteemed organizations such as UNICEF, UGC, and the State Research Center has allowed her to translate her research into impactful projects, benefiting communities far and wide. One of her notable endeavors is the leadership of a substantial research initiative supported by RUSA, focusing on waste management and vermiculture. Beyond research, she plays a pivotal role in academic governance, serving as a member of the BOS Home Science at Maharaja Surajmal University in Bharatpur, as well as contributing significantly to the Research Board at UOR, Convenor for B.Des. at UOR, Jaipur, and active participation in various committees and councils within the university, such as Women Harassment Cell at IHM, Jaipur, and the Salt Commission of India. She has also earned prestigious awards, including Naari Tujhe Salaam 2017, Jagruk Women Achievement Award 2020, Edubest Award, Indian Trailblazers Award, and Sanjana Women Achievers Award. She has presented over 50 papers at diverse conferences, published more than 75 research papers in esteemed journals, served in editorial roles for 4 journals, and authored 8 books. Her commitment to innovation is underscored by her completion of 7 projects and pending applications for two patents. Throughout her distinguished career, she has had the honor of serving as a chairperson at conferences and being invited as an expert on numerous occasions.

Dr. Aligina Anvitha Sudheshna

She is currently working on "Strategies on Institutional Food Waste Management", Project-12, under RUSA 2.0 at the Department of Home Science, University of Rajasthan, Jaipur. She is a dedicated researcher and scholar in the field of Home Science. Her journey in academia has been marked by remarkable achievements and a profound passion for creating sustainable solutions for environmental challenges. She holds a Ph.D. in Textiles and Apparel Designing and UGC-NET. Her area of expertise lies in community science, particularly focused on finding innovative ways to address environmental issues. She has presented over 12 papers at conferences, published 19 research/ review papers, two books, and one book chapter, and has attended numerous workshops, FDPs, and conventions. She was honored with the Best Research Scholar Award for exemplary Ph.D. work by Sabujeema Magazine and also received the prestigious Indian Council of Agricultural Research (ICAR-NTS) merit scholarship during my M.Sc. studies. She has a Design Patent along with one Patent and two Design Patents are in process. Apart from that she is a founding member of NurtureHue Solutions an organization that is working in the field of holistic development of individuals.

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