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Antimicrobials and Antimicrobial Resistance in the Environment

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Today, the food and water that we encounter in any part of the world could contain antibiotic residues and/or antibiotic-resistant bacteria. This book presents research evidence for this and also a potential way to mitigate the problem. Although not presented in this book, it is likely that this situation exists for all other types of antimicrobial agents as well, including antivirals, antifungals, and antiprotozoal agents. The presence of antibiotic residues and/or antibiotic-resistant bacteria contributes to the generation and propagation of resistance in disease-causing pathogens in humans and animals. Therefore, the medicines that we use to treat and/or prevent infections will not work as expected in many cases. It is estimated that if we do not contain antimicrobial resistance urgently, by 2050, up to 10 million people will die due to bacterial infectious diseases, such as pneumonia, skin infections, urinary tract infections, etc., which were once easily treatable. However, this book presents a system that can eliminate resistant bacteria and antibiotics from the environment, with the potential to work on other environmental microbes and antimicrobials. This book opens pathways for academics and scientists to do further research on antimicrobials and antimicrobial-resistant bacteria in various environmental areas and also presents evidence for policymakers to take further action and make the general public aware of the current situation in this context.

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