The agricultural sector is the biggest employer globally, and represents the most hazardous economic sector in terms of occupational risks and accidents. Yet, even basic statistics of accidents and health hazards in fields, plantations, stables, forests and fisheries where over a quarter of the global labour force works are often unavailable. Compared to other industrial and service sectors, there are few Occupational Safety and Health (OSH) studies in agriculture, which deserves more attention.

In *Occupational Safety and Health Challenges in Southern Agriculture*, editors Christoph Scherrer and Katja Radon aim to raise awareness about OSH challenges in agriculture with a specific focus on the Global South, where the situation is especially severe. Contributions cover countries like Brazil, Colombia, Costa Rica, Ecuador, Ghana, India, Nicaragua and Pakistan. The scope of chapters varies from a national to a regional level, and focuses on major tropical crops like bananas, palm oil, sugar, melons, tea and mangoes. The target audience ranges from scholars to governments, labour movements and employers interested in decent work. The authors contribute from different disciplinary backgrounds, including agricultural sciences, economics, epidemiology, political economy and sociology.

The introduction of the book presents a literature review on OSH in Southern agriculture, emphasising the monumental challenges and lack of attention given to OSH by governments and employers. While some chapters contain policy recommendations, the main aim of the book is to raise awareness about OSH challenges in agriculture in the Global South.

The edited volume is structured in three parts. The first part introduces different dimensions of OSH in agriculture, while the second part focuses on OSH on plantations, and the last part on OSH challenges on smallholdings.

“Modern Agricultural Practices in India: Impacts on Occupational Safety, Health, and Environment” by Praveen Jha, Gurpreet Singh and Nivedita Sharma looks at the impacts of the chemicalisation and mechanisation of Indian agriculture led by the green revolution. Operating modern machinery and applying chemicals without proper training can lead to significant health hazards. India lacks a national registry of farm-related accidents, as the agricultural sector is almost entirely informal. Jha and his co-authors argue that the improvement of OSH in India is

---

1 A PDF of this book is available as a free download: https://kobra.uni-kassel.de/handle/123456789/11183
2 The views expressed in this publication are those of the author and do not necessarily reflect the views of the FAO.
challenged by the informal and uninsured character of the sector which results in a lack of reporting and training.

Angela D. Akorsu, Emmanuel Y. Tenkorang and Loretta Baidoo explore the “Gender Dimensions of Occupational Health Risks among Non-standard Agricultural Workers in Ghana”, and emphasise that OSH challenges vary along the lines of (in)formality, gender, age, class, migration status and rural/urban location. Having less access to land and productive resources, women also have less control over decision-making about which crops to grow or which chemicals to use, and consequently about the division of labour and exposure to health risks. The chapter authors conclude that female OSH challenges are often trivialised because of cultural perceptions and injuries which are often not as obvious as those of male counterparts.

“Occupational Health Risks in Agriculture: Instruments of Measurement and Protective Strategies in Central America” by Alberto Bárcenas Reyes also problematises the lack of data on the health and occupational security of workers, especially in the informal sector. The strength of the chapter lies in providing a comprehensive list of risks and hazard categories, and suggesting a method to study OSH risks. The author recommends organisational, statistical, investigational, legal and educational measures to increase work safety in Central America.

“Occupational Health and Safety in Pakistan’s Sugar Mills”, written by Anjum Munir, Abdul Ghafoor, Waseem Amjad, Adeel Ashraf and Oliver Hensel, compares working conditions and skill levels at six different sugar mills, and concludes that most of them run without proper ergonomics, training and OSH measures.

After outlining different OSH dimensions in the first part, the second and largest part of the book focuses on OSH on plantations. “Prevalence of Respiratory Symptoms among Ecuadorian Banana Plantation Workers” by Juan Pablo Piedra González, Leonardo Briceño and Katja Radon shows a high prevalence of respiratory symptoms in workers involved in pesticide spraying, problematising that only half of the workers were aware of the toxicity of pesticides used, and only one-third used personal respiratory protection.

The chapter on “Export-led Development and its Impact on the Heath and Labour Conditions of Workers: The Apparel Industry in El Salvador and the Palm Oil Industry in Colombia” by Daniel Hawkins and Oscar Gallo-Velez traces OSH challenges back to neo-liberal, market-friendly reforms and the dismantling of labour union power in the 1980s and 1990s, which led to a flexibilisation and intensification of labour relations. The authors show that labour relations under Toyotism often encourage workers to prioritise slight increases in salary over their own health. One of the longest in the book, this chapter does an exceptional job in embedding the labour relations in the apparel industry in El Salvador and the palm oil industry in Colombia into the broader political economy and history of these countries.

The next two chapters study work relations in melon production in Rio Grande do Norte, Brazil. Working conditions in melon production seem to have improved considerably since the 1990s, due to trade union activism, better enforcement of international labour conventions and national labour laws, as well as stronger scrutinising from consumers and importers. However, there is an historical underreporting of work accidents, which does not take into account the informal sector that represents half of all occupations in Brazil. In “Occupational Health and Safety of Melon Workers in Brazil’s Rio Grande do Norte”, Valdênia Apolinário, João Matos Filho, Thales Augusto M. Penha and Leticia Amaral provide a short history of OSH and British industrialisation since 1802. Next, in “The Impact of Quality Certifications on Working Conditions in the Context of Fresh Fruit Global Value Chain: The Case of Melon Production in Rio Grande do Norte, Brazil”, Walter Belik and Thales A.M. Penha emphasise that family
farmers perceive their OSH as worse compared to formal employment relations. The mixed impact of certifications (such as GlobalG.A.P) is also discussed: While the link to international commodity chains might improve work safety and establish minimal levels of normalised work relations, it also results in higher employment volatility.

The third part of the book focuses on OSH on smallholdings. In “Occupational Health, Risk and Vulnerability: Conditions of Farm Labour on Independent Tea Plantations in India” Debdulal Saha studies workers on emerging small tea plantations, which face multiple vulnerabilities in terms of gender, caste, religion, education and age. With a large informal sector, lack of farm labour accident statistics, high levels of illiteracy, child labour and widespread malnutrition, the author also problematises the lack of clean water and basic sanitation on many small tea plantations.

In “Social Upgrading and Occupational Safety and Health: A Case of Pakistan’s Mango Industry” Mubashir Mehdi and Bilal Ahsan look at one of the fastest-growing horticulture sectors in Pakistan and emphasise factors for economic upgrading along the mango value chain. They argue that GlobalG.A.P certification leads to organised workers and unionisation, which in turn improves OSH. However, migrant and seasonal labour remains vulnerable, especially on non-certified orchards.

The final chapter of the book, “Waste Water Irrigation and Occupational Health and Safety of Agricultural Labor” by Saira Akhtar, Shabbir Ahmad and Abdul Ghafoor traces the increasing use of wastewater for agricultural production in Pakistan. While there are economic incentives for wastewater irrigation, the authors urge that there are substantial health hazards, as wastewater is often not treated and includes toxic chemicals from different industries.

In summary, Occupational Safety and Health Challenges in Southern Agriculture provides both the big picture as well as pointing out a wide range of context-specific chemical, biological, physical and psychosocial hazards. The book shows that there is a variety of OSH risk sources, including patriarchal norms, lack of training and education, lack of protective gear and health services, lack of awareness about risks, informality and competitive pressures from global supply chains. The lack of data and underreporting of injuries is a common topic throughout the book. Several chapters emphasise the diversity of tasks even within certain agricultural value chains, and that understanding OSH vulnerabilities depends on the context and intersectionalities of gender, class, education, age, caste and religion.

The book argues that more research and statistics on OSH and risk sources in Southern agriculture are needed, including mental health impacts which are only partly addressed. The edited volume thus provides much to explore and raises crucial questions for activists, scholars and professionals concerned with the working conditions of a quarter of the global labour force.

**BIOGRAPHICAL NOTE**

Florian Doerr is Associate Professional Officer at the Food and Agriculture Organization of the United Nations. [Email: floriando@hotmail.de]