



Book review: “Food security for African smallholder farmers”

Review of Food security for African smallholder farmers. Sustainable Agriculture and Food Security. Edited by Mupambwa, Hupenyu Allan, Adornis Dakarai Nciizah, Patrick Nyambo, Binganidzo Muchara and Ndakalimwe Naftal Gabriel¹²

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"Food Security for African Smallholder Farmers" is an invaluable resource for anyone interested in understanding and addressing the complex challenges facing smallholder farmers in Africa. Written with both expertise and empathy, this comprehensive guide offers a thorough examination of the issues surrounding food security in the context of African agriculture. The authors skillfully navigate through the multifaceted dimensions of food security, delving into topics such as agricultural productivity, climate change adaptation, market access, and policy frameworks. What sets this book apart is its emphasis on the experiences and perspectives of smallholder farmers themselves, giving voice to those who are often marginalized in discussions about food security.

One of the book's greatest strengths lies in its practicality. Rather than simply analyzing problems, the authors provide actionable strategies and solutions for improving food security at the grassroots level. From innovative farming techniques to community-based initiatives, readers will find a wealth of ideas that can be implemented to enhance the livelihoods of smallholder farmers and ensure sustainable food production. Furthermore, the book is highly accessible, written in clear and engaging prose that makes complex concepts easy to grasp. Whether you're a seasoned agricultural expert or a concerned citizen eager to make a difference, *"Food Security for African Smallholder Farmers"* offers insights that will inform, inspire, and empower.

The book's 24 chapters, in six parts, provide a comprehensive picture of the continent's food production challenges, supported by case studies, and make recommendations for stabilizing food security. The first part is divided into nine chapters detailing the links between soil quality and agricultural yields, with a special focus on the importance of fertilization for soil productivity. It provides concrete examples of the challenges of growing cereals, maize, beans and tobacco on degraded soils of poor quality and suggests solutions to improve soil productivity. In view of the high population growth that is a feature of the continent as a whole, the chapters also discuss the need for and possibilities of introducing sustainable intensification and precision

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farming. In addition to the agronomic and economic aspects, the authors describe the social situation of farmers and other challenges arising from farmers' attitudes. In this context, they call for the development of holistic research plans.

The second part presents the management of water resources and the characteristics of various water management systems. Through the specifics of integrated water resources management in Olushandja, Namibia, we get an idea of the possibilities of self-sufficient farmers regarding sustainable water management in agriculture. The authors dedicate a separate chapter to the role of aquaculture in food security, as well as the challenges of the sector, and then formulate proposals for development and stabilization. It analyzes in detail the possible effects of stronger policies, the establishment of stronger public institutions, and the support of the private and corporate sectors on the sector and, at the same time, on food security.

The third part deals with challenges related to climate change and their effects on food security. Chapter 14 presents in detail the problems caused by climate change, then other problems that occur as a result of solving the problems, and ultimately the cycle that greatly increases food insecurity. Availability, accessibility, usability and stability, described as the pillars of food security, are all at risk due to the increasing effects of climate change. The lack of accessibility and stability basically determines the development of market prices. The chapter explains the connections in a way that is easy to understand, and formulates suggestions for mitigating the negative effects of climate change. The authors devote an entire chapter to the presentation of Africa-specific versions of climate-smart farming methods. Related to the topic, the importance of medicinal plants in aquaculture is discussed in a separate chapter, as well as recommendations are made on the possibilities of using medicinal plants in aquaculture.

In the following chapters, the authors discuss in detail the exposure of smallholder subsistence farmers to climate change. The main reason for vulnerability is that farmers are not prepared to mitigate risks from climate change - e.g. severe droughts, devastating storms, floods. The authors use concrete examples to illustrate the risks of not using irrigation technology for crop production in Zimbabwe, for example, where natural rainfall is unpredictable. The chapters make various recommendations on the negative impacts of climate change on food security.

The authors devote a special chapter to stressing the importance of conservation agriculture and the use of indigenous crops. The link between soil degradation and the increase in food insecurity through the reduction of crop yields is detailed.

Part 4-5-6 focus on African farmers' knowledge, skills, best practices and opportunities for improvement. The issue of gender inequality in land tenure relations, its causes and consequences are discussed in detail. The authors seek to explore from all possible angles the links between agricultural development opportunities and increasing levels of food security, and to make recommendations taking into account the specificities of each region. The existence of so-called holistic farming systems is discussed in detail. Holistic farming systems are a way of maximizing productivity by optimizing economic and financial indicators, the aim being to recycle and reuse all materials. Biogas production,



for example, can be of particular importance, as it helps to recycle organic waste of all kinds, offers sustainable energy production and helps to reduce greenhouse gas emissions. In addition to sustainable agricultural production, various alternatives for use as nutritious food are being researched across Africa. In this regard, one chapter of the book deals in detail with the possibility of mushroom cultivation in Namibia, and presents the efforts made to popularize mushroom cultivation and use. Low-budget mushroom cultivation, in addition to being an activity that generates income for food security stability and production, also offers solutions in the fields of cleaning, environmental management, medicine and biotechnology. The key conditions for the development of cultivation in Namibia are given. In order to popularize consumption and demonstrate the effects of cultivation on food security, workshops and events are organized in the region for farmers and institutions. The authors deal in detail with the current situation and future possibilities of aquaculture in Namibia. Based on its natural features, with its 1,572 km long coastline, Namibia provides excellent foundations for aquaculture to become the dominant sector of the country. Although the currently developing sector shows slow growth, it is a welcome fact that the country's government supports the developments. Environmental factors (such as weather anomalies resulting from climate change), as well as financial and infrastructural characteristics represent the challenge for the development of the sector, which challenges can be bridged by the diversification of the economy and various technological developments. Chapter 22 presents women's land ownership rights and their characteristics. It is typical throughout Africa that women's land ownership and land inheritance rights are unclear. In some regions it is not regulated, in other areas the legal regulations allow women to own land, but the implementation of the rules does not work in practice. Patriarchal hegemony prevails in several regions, but this significantly contributes to the development of women's farming situation in a negative direction. Given the fact that women in many countries in Africa are engaged in smallholder farming and that smallholder farmers determine the level of food security, the regulation of land tenure issues is imperative and requires immediate action. Inequality between the sexes in relation to land ownership makes it impossible for the farmer, for example, to receive various subsidies, which leads to the minimization of investment opportunities. The authors recommend education, basic legal training, legislative reforms, and the organization of community-based land management programs in relation to women's land ownership.

In conclusion, this book is not just a scholarly treatise; it's a call to action. By illuminating the challenges faced by African smallholder farmers and presenting practical solutions, it serves as a roadmap for building a more equitable and food-secure future for all. I highly recommend it to anyone passionate about agriculture, development, and social justice.

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