
Review paper: The role of agroecology in combatting hunger and food insecurity among smallholder farmers

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Introduction

The term agroecology emerged more than 80 years ago and originally referred to the ecological study of agricultural systems (Gliessman, 2007). The term agroecology was first used in the 1930s by Bensin (Schaller, 2013), a Russian agronomist, initially in reference to applying ecological methods to research on crops. In 1965, German ecologist and animal scientist Tischler published what is most probably the first book titled Agroecology (Tischler, 1965). Yet, some controversy about the definition of agroecology remains. Agroecology is a concept that inspires more and more people, but also means different things to different people. There is no single way to define or practice agroecology, but the concept unifies different groups of scientists, practitioners in the food systems, and social movements. Initially, Altieri (1983) defined agroecology as the application of ecological principles to agriculture. Twenty years later, agroecology was enlarged to the whole food system linking production with the food chain and consumers. This new definition allows for the analysis of the socio-economic and political dimensions of food systems. Agroecology became an interdisciplinary method that put to test scientific and social borders.

Methodology Review paper

Results & Discussion

2. Principles of agroecology in relation to food security

As the definition of agroecology is rather wide, a better understanding of the concept can be obtained by exploring the principles that guide researchers, practitioners and social actors involved in the field of agroecology.

3. Agroecology versus Green Revolution

Long before the era of Industrial Revolution in the 18th century, agriculture was dependent on the local resources of land, water, and other resources, as well as local varieties and indigenous knowledge.

4. Hunger and Food status on the planet

The vast majority of hungry people live in lower-middle-income regions, which witnessed a 42 percent reduction in the prevalence of undernourished people between the periods 1990 - 1992 and 2012-2014. Despite this progress, in 2016, the global prevalence of undernourishment surged (FAO et al., 2017).

5. Potential interventions of agroecology for food security

5.1 Agricultural practices improvement

5.2 Increased agricultural production and productivity

5.3 Reducing inputs expenses and diversifying income sources

5.4 Agroecology and resiliency to climate change

5.5 Agroecology and gender

5.6. Agroecology and health promotion

Conclusion

As it is mentioned in this paper, many researchers demonstrate that agroecology offers the possibility to increase agricultural production and productivity through agroecological practices and local available resources. Agroecology is therefore increasingly being looked at as the best option to sustain food security and combat hunger without destroying the environment at small scale farming levels due to its advantages. It is healthy and offers long lasting and fully sustainable solutions to rural employment, environmental and climate challenges, today and for the future. However, if this is to be wholesomely accepted and embraced by all, a lot more empirical evidence pointing to positivity must be provided.

Keywords

Agroecology, Hunger, Food insecurity, Smallholder farmers