

BOOK REVIEW

de Boef, W., Haga, M., Sibanda, L., Swaminathan, MS, Winters, P., Tutwiler, M. A., Kennedy, G., Attwood, S., van Etten, J., Dulloo, E., Remans, R. et al.: MAINSTREAMING AGROBIODIVERSITY IN SUSTAINABLE FOOD SYSTEMS: SCIENTIFIC FOUNDATIONS FOR AN AGROBIODIVERSITY INDEX. Bioersivity International, Rome, Italy. 2017. 180 pages, ISBN 978-92-9255-070-7

When people think about biodiversity, first thing that would come to their minds would probably be the abundance of animals, plants and birds in the wild. What they usually don't think about is the amazing diversity in our food systems – the wide range of species and varieties of cereals, pulses, fruits, vegetables, animals and fish – all of which have been developed by farmers for over millennia. In recent years, there have been many initiatives to mainstream biodiversity and focus our attention of this pressing issue, such as Convention on Biological Diversity and the Sustainable Development Goals. Now the Agrobiodiversity Index, described in this book, proposes to help bring production and consumption together and raise awareness about the many links between biodiversity, healthy nutrition and sustainable food production.

The book is structured alongside the four dimensions of contribution to agricultural biodiversity:

- Diverse, healthy diets
- Multiple benefits in sustainable farming system
- Seed systems delivering crop diversity for sustainable food systems
- Conserving agricultural biodiversity for use in sustainable food systems

For each of these dimensions, structured list of evidence is given to prove that they are indeed essential and also provide notable starting point for the creation of the Agrobiodiversity index.

For the diverse and healthy diets, one must admit that current nutrition trends do not lead to a situation where the whole population is well nourished and the sustainability of how we produce food might also be questioned. There are currently two billion people who are overweight or obese but then two billion people suffer from malnutrition. These extremes also have significant results – the fast paced increase in communicable diet related diseases such as diabetes and hypertension while also cases of extreme malnutrition is becoming the new normal. There is however evidence, that food biodiversity can improve healthy diet choices and there are sometimes striking differences in nutrient content even among cultivars of the same species.

When we look at agriculture from the point of land use, we see that it dominates the world – over 38% of the land is used of agriculture. As the human population is increasing, there will be more pressure to increase the production, yet there is little chance that more land can be converted. In the past and even now, farmers have increased their yield through intensification. This has contributed to a widespread biodiversity loss. One of the key features is the shrinking diversity of agricultural crops grown and consumed. Only three crops (rice, wheat and maize) make up more than 50% of the diet and only 12 crops and five animal species provide 75% of world's food. This striking homogenization has led to widespread impacts in terms of pest and disease control, vulnerability to climate variability and others. The sustainability food system seems like the only answer to this.

Seed systems are also of crucial importance for sustainable food systems. The farmers' seed access influences food production and consumption. The goal of a sustainable food system should be that to ensure that seeds are available to all farmers in sufficient quality, quantity and diversity to produce nutritious food in a sustainable manner.

The conservation of agricultural biodiversity seems like an answer to these voiced threats. The globalization and homogenization of diets is the greatest threat to the agricultural biodiversity. Even as this is happening, the diversity conserved on and around farms continues to be remarkable. On the other hand, it is notoriously difficult to measure the exact status of crop and animal diversity.

The book presents all this compelling evidence together with indicators and proposal how to measure all these different components. The idea is then to put all these dimensions of agrobiodiversity to the common index – indeed as the publication stresses, what is measurable can be used to propose an intervention. This Agrobiodiversity index could then be used amongst different stakeholders from public and private sector to help promote sustainable practices in agriculture, monitor and manage biodiversity and also influence policies and programmes.

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