Sustainable food production in developing countries can be achieved through ‘agroecology’ – where farming practices mimic nature rather than relying on external products, such as fertilisers and pesticides. This is according to a recent report, which claims that conventional farming does little to alleviate rural poverty and ecosystem degradation.

It has been predicted that food production will need to increase by 70% by 2050 to supply a global population approaching 9 billion. However, despite increases in food production, poverty continues to be the biggest barrier to adequate nutrition in the developing world.

The report argues that conventional ways to increase food production, such as using high-yielding crops, disease resistant varieties and pesticides, do not tend to benefit the poorest farmers, who cannot keep up with the increasingly high and unpredictable costs of these methods. Instead, the report supports ‘agroecology’, which is a range of simple farming techniques that increase crop yield by promoting naturally beneficial interactions between soil, nutrients, crops, pollinators, trees and livestock. These measures can help alleviate rural poverty by reducing farmers’ dependency on external products and state subsidies.

The report recommends that policymakers refer to agroecology and sustainable agriculture in national strategies for the realisation of the right to food and that they redirect public spending by prioritising the provision of public services such as rural infrastructures and agricultural research.

The report assessed the results of 286 newly introduced agroecological projects in 57 countries across the developing world. These reported an average increase in crop yield of 79%. Preserving the natural dynamics of ecosystems with agroecological techniques also appears to help increase their resilience to climate change and promote biodiversity.

In Kenya, a ‘push-pull’ farming strategy deters pests by inter-planting crops with insect repellent species, while simultaneously enticing them away with nearby plants. This technique has doubled maize yields and also increased milk production, because the extra vegetation can be used as feed for livestock. In Zambia, unfertilised maize yields are reported to be more than three times the size of nearby fertilised crops, as a result of planting *Faidherbia albida* trees in the field, which take nitrate out of the air and store it in their leaves. When the leaves fall to the ground, the nitrates are absorbed by the soil, which avoids the need for artificial nitrogen fertilisers.

Agroecology is rapidly gaining support among scientific agencies worldwide, including the United Nations Environment Programme (UNEP), the UN Food and Agriculture Organisation (FAO) and Biodiversity International. Ahead of the Global Strategic Framework for Food and Nutrition Security in 2012 organised by the Committee on World Food Security, the report urges delegates to consider the benefits of agroecological farming. A successful transition to agroecological farming requires initial investment by governments to expand existing projects and to teach farmers new techniques. However, it should be noted that best-practice techniques are likely to emerge through farmers sharing their own experiences, rather than being the recipients of government-led training and other ‘top down’ approaches. Active participation by farmers is vital to the success of agroecological food production. Investment in rural infrastructure will also be needed.

Travelling technical advisors, workshops, ‘field schools’ (where farmers demonstrate successful techniques) have contributed to successful support frameworks for farmers in parts of Asia and Cuba, and are recommended by the report for all emerging projects. Research shows that these networks also help to empower the farming community by identifying their own solutions to global problems.


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