Agroecology, a science-based, ecological approach to agriculture, has been underestimated by policymakers even though it could play a vital role in boosting crop yields and advancing economic development, says a UN report.

The approach relies on the natural environment to boost soil productivity and protect crops against pests, instead of using external inputs such as fertilisers and pesticides.

The report, published earlier this month (8 March), brings together the last five years of research into agroecological practices and argues in favour of scaling up those approaches that have been most successful.

For example, as part of its broader work, the UK's Foresight Global Food and Farming Futures project conducted a review of 40 agroecology projects in 20 African countries. The review, to be published later this year, found that crop yields for over ten million farmers more than doubled in 3–10 years.

"There is no magic bullet to combat food security and allow farmers to produce [crops] in better conditions and raise their income," Olivier De Schutter, the report's author and UN special rapporteur on the Right to Food told SciDev.Net. "But there is certainly a strategy which, in comparison to others, has been underexplored and underinvested in — and that is agroecology."

"The results can be spectacular, both in raising yields and making food production less expensive."

He said that it had been difficult to convince governments to pursue an agroecological approach — they have instead been investing lots of effort and money in developing biotechnologies and improved plants.

"This is a mistake ... because we need to delink agriculture from fossil fuels [such as oil and gas in the production of fertiliser] and provide something much more sustainable than the Green Revolution type of package," he said.

"We have to prepare for when we run out of fossil fuels and teach farmers something else; teach them how to not use external inputs and use nature instead."

Ramajita Tabo, deputy executive director of the Forum for Agricultural Research in Africa, agreed there was a need for good agricultural extension services, such as farmer field schools — where farmers could come together to work on agroecology with scientists and extension workers.

But he added that agroecology was only part of the solution.

"A little bit of chemical fertilisers [is needed] because relying solely on organic manures and crop residues may not give that leap on crop yields that we are looking for," he told SciDev.Net.

And Maurice Moloney, director of the United Kingdom's Rothamsted Research institute, welcomed the report in general, but criticised it for implying that agroecology is a set of practices, rather than a science.

"Agroecology is a scientific subject. What I'm a bit worried about ... is that [agroecology has] become rather ideological. And [it] is not ideological. Agroecology is a legitimate area of scientific investigation."

"Most of the low-tech solutions that we are coming up with [in agroecology] started out as high-tech science. What's conspicuous by its absence [in the report] is that science and technology are what are required ... even for the low-tech [solutions] that we are talking about. Let's really focus on the science that can achieve the objective."

Link to full report [257kB]

COMMENTS (1)

Raymond Erick Zvavanyange (China (including Hong Kong, Taiwan and Macao))
28 March 2011

The report is indeed timely in light of the complex problems as a result of agricultural practises. In the report by Special Rapporteur to the UN, 3 objectives of food systems there is the statement“agriculture must not compromise its ability to satisfy future needs“ and this is
commendable. Strategies must prepare the present generations for the future ahead. However, I am forwarding this question on the similar terms, "agroecology" and "ecoagriculture - term coined by Jeffrey A. McNeely and Sara J. Scherr (2000)". Are these two the same? Is the focus the same in both strategies?

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