



Greater recognition of ecosystem services needed for food security

Global food security under a changing climate is possible if the vital role of healthy ecosystems is recognised, according to a recent study. The researchers suggest that an ecosystem-based approach must be integrated with other measures to tackle food security under climate change, to protect ecosystems and supply the essential services on which humanity depends.

Healthy ecosystems support human life. By managing the Earth's ecosystems in a sustainable way, ecosystems can continue to provide many services, including the provision of food, fibers, freshwater and fuel, the regulation of climate and water, supporting soil formation and nutrient cycling and enhancing recreational opportunities and increasing human wellbeing. Of particular importance is the ability of ecosystem services to deliver food security for a growing global population under a changing climate.

The study argues that ecosystem-based management should be the basis for supporting food security and securing far-reaching economic and environmental sustainability. An ecosystems approach links socio-economic development, ecological protection and international, regional and national strategies to achieve food security under a changing climate in a sustainable, equitable and cost-effective way.

Using the world's ecosystems in a sustainable manner requires identifying, measuring and managing complex trade-offs that balance human wellbeing and development, poverty reduction, food security and protection of vital ecosystems and their services. Poorer populations are especially reliant on healthy ecosystems for their livelihoods and food. Yet increasingly, prosperous sections of the global population, motivated by diets richer in meat and dairy products, are threatening the ability of ecosystems to feed others.

Achieving a complex array of food security, environmental and poverty-reduction goals would be more likely if food waste and overconsumption were reduced, and the 'demand' for food was replaced by the 'requirement' for food, which allows resources to be shared equally. Food supply should also be linked to the capacity of ecosystems to support food production. All this requires changes in human behaviour and adaption to changing circumstances, in particular, the impact of climate change.

Four essential and complementary strategies are identified in the study to bring about the co-ordinated changes required by societies:

1. Political commitment to include the role of ecosystems in food security and climate change strategies at the local, national and international levels.
2. More investment to protect and manage valuable ecosystem services.
3. Incentives and policies to reduce pressures on ecosystems and increase the sustainability of resources, especially promoting the protection of soil and water.
4. Provide and share information and best practices about ecosystem management, climate change adaptation and mitigation actions between science, education, economic, business, political and policy circles.

A number of actions need to be taken to achieve these strategies, including: valuing ecosystems and the services they provide, especially the public benefits from ecosystems; promoting protection of ecosystems by governments and individuals, which considers their true value in supporting the economy; promoting 'local solutions for local problems' that contribute to global objectives of protecting ecosystems, particularly considering property rights of individuals; facilitating public education on the necessity to protect ecosystems and on ways of protecting them; and changes in behaviour; and providing long-term funding for the protection of environment and natural resources.

Source: Munang, R.T., Thiaw, I. and Rivington, M. (2011). Ecosystem Management: Tomorrow's Approach to Enhancing Food Security under a Changing Climate. *Sustainability*. 3: 937-954. This study is free to view at: www.mdpi.com/2071-1050/3/7/937/pdf

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