



TOPIC NOTE

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How can we protect pollinators and promote their role in environmental and agricultural practices?



Pollination is responsible for providing us with a wide variety of food, mainly horticultural crops. In fact, pollinators such as bees, beetles, birds and bats affect 35 percent of the world's crop production, increasing outputs of 87 of the leading food crops worldwide (FAO), as well as many plant-derived medicines. It is critical for food production and human livelihoods, and directly links wild ecosystems with agricultural production systems. Without this service, many interconnected species and processes functioning within an ecosystem could collapse.

Human activity has put a large pressure on pollinators by both increasing their demand while at the same time removing their habitat. Horticulture has rapidly expanded over the last decades, while the landscape has become more uniform due to intensive agriculture. Lack of pollination has increased awareness of the value and management requirements of this service. Effective pollination requires resources, such as refuges of pristine natural vegetation. Where these are reduced or lost, pollinators are becoming scarce and adaptive management practices will be required to sustain food production.

The main issues concerning pollinator services and food security are:

1. They increase food quantity

Bees and other pollinating insects are currently improving the food production of two billion small farmers worldwide, helping to ensure food security for the world's population. Research shows that if pollination is managed well on small diverse farms, with all other factors being equal, crop yields can increase by a significant median of 24 percent.

2. They increase nutrition

Foods richest in micronutrients such as fruits, vegetables and seeds depend on pollination. If a plant has been well pollinated, meaning that it received quite a large amount of pollen, a larger and more uniform fruit will develop. Round apples for instance, would imply sufficient pollination, whereas misshaped apples would imply insufficient or imbalanced pollination. Generally, plants put more of their resources into pollinated fruits, increasing quality and taste.

3. Bees and pollinators need favourable environments to be productive. Pollinators need good foraging resources, places that are rich in flowers pollen and nectar. They need a place to nest and to eat, and a natural, non-toxic environment. One hundred years ago, small, diverse and pesticide-free farming systems proved very favorable for pollinators. Such environments can still be found today in developing countries such as Kenya.

4. Their biggest threats
The absence of an appropriate habitat for bees and other pollinators could lead to a continuous decline in pollination. Mono-cropping, pesticides, diseases and higher temperatures associated with climate change all pose problems for populations and, by extension, the quality of food we grow. Declining pollination can also pose an immediate threat to nutrition.

5. Protection measures for farmers and governments

For farmers:

Recommended practices include leaving some areas under natural habitat, creating hedgerows, promoting intercropping, reducing or changing the usage of pesticides, leaving nesting sites and planting attractive crops such as cassava around the field. The latter is often applied by farmers in Ghana and has yielded more than satisfactory results.

On a policy level:

Based on a report by the intergovernmental platform of Biodiversity and Ecosystem Service (IPBES), governments should support a more diverse agriculture and depend less on toxic chemicals in order to facilitate an increase in pollination, leading to improved food quality and a surge in food quantity.

Given the importance of pollination services for both environmental and agricultural benefits it is vital that active steps are taken to help protect pollinators.

Your experience will help us take stock of challenges faced by pollinators and, more importantly, of ways to protect their important role in providing us with food. A summary brief of the comments and inputs you share will be widely circulated in order to raise awareness and prompt further exchanges.

- 1. What activities are you aware of that are successfully promoting pollinator insects in your area? Share examples of best practice.**
- 2. What more needs to be done to encourage pollinator friendly practices?**
- 3. What training, support or information do you need to take up pollinator friendly practices?**

Thank you for your comments and look forward to learning more.

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and
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