



© FAO/22473/R. Messeri © P. Ragazzini

POLLINATION

AN ECOSYSTEM SERVICE

WHY CONSIDER POLLINATION?

Pollination is critical for food production and human livelihoods, and directly links wild ecosystems with agricultural production systems. The vast majority of flowering plant species only produce seeds if animal pollinators move pollen from the anthers to the stigmas of their flowers. Without this service, many interconnected species and processes functioning within an ecosystem would collapse.



© D. Martins

The losses of pollination services have been well documented in many specific instances. As managed pollinators such as honeybees face a suite of debilitating threats, the services provided by wild pollinators become even more essential. On a global level, the international community has identified the importance of pollinators with the establishment of the International Initiative for the Conservation and Sustainable Use of Pollinators (also known as the International Pollinators Initiative-IPI) in 2000 by the Convention on Biological Diversity, facilitated and coordinated by FAO.



© P. Ragazzini

A Plan of Action for the IPI was adopted at COP 6 (decision VI/5), providing an overall structure to the initiative, with four elements of assessment, adaptive management, capacity building and mainstreaming. The plan of action recognises the need to take action, while still collecting evidence and expanding the knowledge base.



© M. Marot



© H. Hadel
© P. Mogninolo



POLLINATION IS ESSENTIAL FOR HUMAN LIVELIHOODS

In agro-ecosystems, pollinators are essential for orchard, horticultural and forage production, as well as the production of seed for many root and fiber crops. About two-thirds of the crop plants that feed the world, plus many plant-derived medicines in our pharmacies, rely on pollination by insects or other animals to produce healthy fruits and seeds. For human nutrition the benefits of pollination include not just abundance of fruits, nuts and seeds, but also their variety and quality; the contribution of animal-pollinated foodstuffs to human nutritional diversity, vitamin sufficiency and food quality is substantial.

MORE IS BETTER

The diversity of pollinators and pollination systems is striking. Most of the 25 000 to 30 000 species of bees are effective pollinators, and together with moths, flies, wasps, beetles and butterflies, make up the majority of pollinating species. Vertebrate pollinators include bats, non-flying mammals (several species of monkey, rodents, lemur, tree squirrels, olingo and kinkajou) and birds (hummingbirds, sunbirds, honeycreepers and some parrot species). Healthy pollination services are best ensured by an abundance and diversity of pollinators.

TROPICS AND MOUNTAIN ECOSYSTEMS HIGHLY DEPENDENT ON POLLINATORS

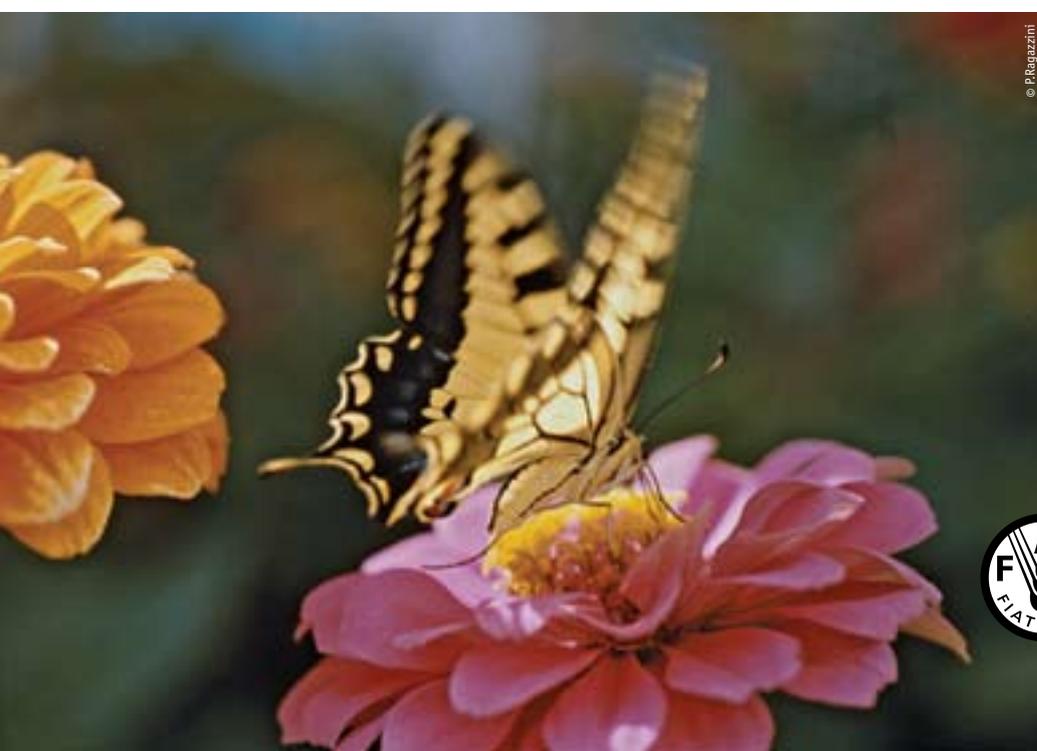
Tropical crops such as cocoa have some of the greatest dependence on pollinators; 90% of the yield of cocoa trees depends on good pollination. Arid and mountain ecosystems often have highly diverse pollinator communities as well, with finely tuned adaptations to ensure that pollination is effective even when climatic conditions are erratic.



© M. Marrot



© Martin D. Tuttle, Bat Conservation International



© P. Ragazzini

Learn more:
www.fao.org/ag/AGP/default.htm
 e-mail: GlobalAction-Pollination@fao.org



Further information about the work of
 FAO on biodiversity is available at:
www.fao.org/biodiversity

A G R I C U L T U R E
 FOR B I O D I V E R S I T Y
 A G R I C U L T U R E