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The multiple interactions of banana production, biodiversity, trade and climate in the Philippines

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Banana is a globally important fruit, and the Philippines is one of the world's largest producers of banana both for domestic consumption and for export. While the popular fruit provides an important source of nutrition and economic revenue, banana production has many negative impacts on the environment. This is due to the input-intensive nature of banana production, as well as the habitat loss and expansion associated with growing trade demands for Philippine bananas, primarily from China, Japan and South Korea. The increased homogeneity of the landscape for banana cultivation also has impacts on threatened Philippine species.

An additional factor of climate risk is added to the multiple interactions between banana production and the environment: the Philippines is vulnerable to climate change and climate hazards. Approximately 20 tropical cyclones enter the Philippine Area of Responsibility every year and are a significant cause of losses and damages to agriculture, particularly banana production which is sensitive to strong winds. Thus, there is a complex set of interactions between banana production, its negative impacts on the environment, the increasing exposure of plantations to climate hazards, and the role of banana in the local diet and economy.

Data on agriculture, trade and tropical cyclones are used to show that a number of threatened Philippine species occur within agricultural pressure zones from banana production, some of which overlap with protected areas. An analysis of agricultural and economic data shows that damages from tropical cyclones are increasing, but tropical cyclones themselves are not increasing in intensity nor frequency. This means that agricultural expansion has impacts both on biodiversity and on the sustainability of banana production itself. Several recommendations to adapt growing systems to be both resilient and more supportive of biodiversity are offered.