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The hidden harvest under commercial agriculture expansion

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Commercial agriculture is rapidly increasing in forested tropical regions, thereby transforming many shifting cultivation systems from rotational to more continuous cultivation. Such transformations are not only influencing the crops grown. They also affect the availability and use of wild food from the forests, fallows, and agricultural fields. As wild food constitute a substantial part of household food consumption in traditional shifting cultivation systems, the land use transformations will have implications for food and nutrient provisioning. However, most research efforts have devoted substantial attention to examine whether commercial agriculture can contribute to eliminating hunger among small-scale farmers as the income gained allows food purchases. But the downplaying of possible impacts on wild food provisioning leads to overlooking a whole range of food security issues related to unbalanced diets that lack nutritional diversity. The rapidly transforming shifting cultivation systems of Southeast Asia provide a unique experimental area to test the ways in which commercial agriculture influences the provisioning of wild food from fallows, forests and fields. These landscapes deliver a broad variety of wild foods of which many have been exploited by populations to gain part of their subsistence. Using plot monitoring, collection diaries and interviews carried out during one year, we examined the role of forests, fallows and agricultural fields in the provision of food in three communities in northern Laos representing different degrees of transformation from shifting cultivation to permanent commercial agriculture. We found that in those communities that had transformed the most towards commercial agriculture, wild food from agricultural areas, fallows and forests contributed less to human diets - despite local dietary deficiency problems. While the rice deficiencies had decreased as the income generated by the commodity crop primarily was used to purchase rice, the protein deficiencies seemed to increase. Our results demonstrate that although the expansion of commercial agriculture in shifting cultivation systems might increase rice sufficiency, it does not secure a nutritionally-balanced diet. Overlooking the diminishing role of wild food in shifting cultivation systems with rapidly expanding commercial agriculture is problematic, as wild food losses may in fact be an indirect pathway to food-insecurity. Thus, our study shows the importance of adopting a more nutrition-sensitive approach to the linkages between commercial agriculture, wild food provisioning, and food security.