



Agroforestry practices and their contribution to food security for coffee growers in the Peruvian Amazon

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High levels of food insecurity persist amongst indigenous peoples in the Peruvian Amazon. Over 50% of the children under 5 years old suffer from chronic undernutrition and anemia, far above the national averages of respectively 13% and 34%. The health systems of these populations are based on high native plant and animal biodiversity that provides resources for nutrition and health. Agroforestry practices, defined as the association of crops or animals with ligneous perennials to enhance ecosystem services, are used by these populations because they are closer to traditional indigenous ways of life, as they support high levels of biodiversity. In the Peruvian department of Amazonas, we surveyed 225 farmers and their families in a coffee growing area where agroforestry practices are dominant and distributed along a gradient from the main city. Our objective was to understand how farming systems contribute to food security, and how this contribution could be affected by the accessibility of imported goods. We clustered these families based on their land uses, agroforestry practices and distance to the main city. The agricultural products from each land use were identified and their nutritional value was assessed. The overall nutritional diversity of these products was compared among farm clusters and along the gradient. We found that farm practices and farmers' diet significantly change when access to imported goods is reduced. Agroforestry systems play a key role in providing a diversity of edible products. In particular the choices of cultivated plants and cattle species consistently changed along the gradient, suggesting an adaptive strategy for providing alternative food products when imported goods are not accessible. Based on these results, a complementary ongoing study will allow to determine the contribution of these products to the everyday diet of the families.