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Utilizing mushrooms for conservation and rural development

Peter Edward Mortimer

Kunming Institute of Botany, China

Purpose: Mushrooms have been recognized for their potential value as an alternative, sustainable source of income for rural communities. This includes wild harvested and cultivated mushrooms as both systems provide novel aspects for alleviating poverty and improving household nutrition.

Methods: Forest surveys were conducted in the Chin State, Myanmar, to assess the diversity of mushrooms present in the region. Furthermore, interviews were conducted in villages to help determine the local knowledge relating to the use and trade of mushrooms. Training was provided to local communities on the identification and harvesting of wild mushrooms, and the cultivation of *Pleurotus ostreatus*.

Results: We collected 37 mushrooms species with economic potential. The surveyed areas included coniferous (Pinaceae) and broad leaf (Betulataceae and Fagaceae) forests. A number of poisonous mushrooms were also collected (31 species), this is of importance due to the high occurrence of mushroom related fatalities in the area. The interview data suggests a low level of knowledge relating to the identification, use, and trade of mushrooms in the Chin State, and a high degree of fear regarding the use of wild mushrooms. Mushroom cultivation programs were successful, after 3 training sessions the communities were able to grow *P. ostreatus*, at sufficient volumes to generate enough income to sustain their production lines.

Conclusions: The Chin State has the potential for developing a mushroom industry. There is a high number of wild, economically valuable mushrooms, however a strong fear of mushroom poisoning makes the use of wild mushrooms unappealing to the local communities. In this regard, mushroom cultivation been well received by local communities, and has thus far proven profitable. The potential trade associated with wild mushrooms is likely to provide an incentive for rural communities to conserve the forest systems surrounding their villages.