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"Bridging the gap between increasing knowledge and decreasing resources"

# Linking Agrobiodiversity and Conservation in Man and the Biosphere (MaB) Reserves in Guantanamo, Cuba

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## Abstract

The recent shift towards the inclusion of communities in nature conservation signals a broadening perspective among conservationists. Earlier practices of fencing off pieces of nature to "mitigate" human impact proved to be unsustainable. The UNESCO's Man and the Biosphere (MaB) concept defines no separation of people from nature to support the reconciliation of conservation of biodiversity with its sustainable use. In the Cuchillas del Toa MaB reserve, located in Cuba's Province Guantanamo where about 4000 subsistence farmers live, the interface between natural ecosystems and agricultural landscapes has not yet been investigated. This study aims at assessing farming systems and agricultural practices in the Cuchillas del Toa reserve to understand how bio-cultural production landscapes in protected areas can be synergistic with conservation of ecosystems to improve community livelihoods and agrobiodiversity maintenance. A household-level survey was conducted in two different agro-ecological zones (coastal and mountain area), on 38 households, along with transects and mapping landscape patches with GPS-points. A participatory farmer workshop was organised to identify opportunities, synergies and trade-offs for considering the use of agrobiodiversity as an option to improve the conservation of protected areas. The results show that diversity of cultivated and wild species in small family farms in this reserve has decreased over the last decades. Inadequate livelihood options – long distances to schools, hospitals – forced the younger generation to migrate to urban areas. Missing work forces, limited transportation infrastructure and bad roads lead to missing possibilities to commercialise farm products, concentrating only on a couple of cash crops. Increasingly simplified eating habits even accelerated this reduction of diversity. Additional negative impacts are given by unsustainable management practices of natural resources due to missing succession and families' short-term thinking, along with decreasing soil fertility and increasing use of chemicals. Traditional agricultural biodiversity management practices that contribute to the unique mosaic landscapes of the Cuchillas del Toa MaB reserve are in danger. As the main drivers of agrobiodiversity loss in the reserve are socio-economic aspects, there is an urging need to demonstrate the economic value and potential of agrobiodiversity, to convince government to invest in infrastructure development in the future.

**Keywords:** Agricultural practices, agro-ecological zones, agrobiodiversity, Cuba, family farmers , farming systems, livelihoods options, Man and the Biosphere, natural reserves

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