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Conservation and Use of Wild Populations of *Coffea arabica* in the Montane Rainforests of Ethiopia

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Abstract

Ethiopia is the center of origin for *Coffea arabica*, where wild coffee populations are part of the understorey in the montane rainforests. This wild coffee is not only an important gene pool for future selection and breeding of improved cultivars. In the forest coffee areas, about 60 % of the local population earn their livelihood with coffee, which mainly comes from forest and semi-forest coffee systems. Deforestation and land-use change, however, are threatening the wild coffee stands. To prevent the forest and coffee stands from further damage, conservation as well as sustainable use concepts have to be developed. In the framework of "Biosphere Research - inTEgrative and Application oriented Model projects" (BioTEAM), funded by the German Federal Ministry of Education and Research (BMBF), ZEF and the Ethiopian Agricultural Research Organization (EARO) jointly carry out a research project entitled "Conservation and utilisation of wild populations of *C. arabica* in the montane rain forests of Ethiopia". The project consists of six sub-projects: (1) Studies on the biodiversity of afro-montane rainforests with occurrences of wild coffee populations, (2) Molecular systematics as a basis for managing the genetic diversity of *C. arabica*, (3) Eco-physiological adaptation of wild coffee populations to water stress, (4) Importance of fungal pathogens in wild coffee population of Ethiopia and potential of resistant coffee types, (5) Economic assessment of the gene pool of *C. arabica* and the economic potential of conservation and use concepts with special consideration of the rain forest habitats, and (6) Analysis of institutional factors influencing the conservation and use of *C. arabica* gene pool. The project approach will be presented.

Keywords: BioTEAM, *Coffea arabica*, economic valuation, ecophysiology, Ethiopia, genetic diversity, institutional research, montane rainforest, phytopathology, species diversity

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