

Empirical social science data for Integrated Biodiversity Conservation Planning in three South Caucasus National Park Areas

Barkmann Jan

Hochschule Darmstadt - University of Applied Sciences, Darmstadt, Germany

Abstract: Because of its exceptional conservation value, the German Federal Ministry for Economic Cooperation and Development (BMZ) initiated a multi-year program on "transboundary" national parks in the South Caucasus (Armenia, Georgia, Azerbaijan). Current challenges to biodiversity protection include illegal logging and poaching, mining and hydropower projects as well as sheep and cattle herding on high altitude summer pastures. BMZ facilitates the implementation and rehabilitation of protected areas via the Caucasus Nature Fund (CNF) that covers half of the operating costs of protected areas. In order to incentivize careful land management and to foster sustainable rural development, CNF supports income alternatives for local farmers and issues nature conservation contracts for local land users.

In this paper, we report on a project on integrated conservation planning in the three South Caucasus countries that aimed at providing data for an evidence-based and participatory design of nature conservation incentives and trainings for income alternatives. Such data are required as strict no-use regulations in the core area of national parks and reduced resource use in their buffer zones regularly are in conflict with current land use of poor rural communities. We conducted two twinned, transboundary case studies (Lake Arpi/Armenia-Javakheti/Georgia and Zaqatala/Azerbaijan-Lagodekhi/Georgia). Here we report on small farmer preferences in Lake Arpi, Javakheti and Lagodekhi for access to natural resources in and around the transboundary national parks as well as for training measures for income alternatives. Following qualitative interviews (n=31) and a quantitative pilot study (n=120) a choice experiment (CE) was administered (n=3*100; clustered random sample). The resulting choice model was overall highly significant ($P[\chi^2, 9 \text{ df}] < .0001$).

Households are allowed to collect plants and fuel wood for home consumption; larger scale logging is prohibited. Preferences for additional opportunities for a commercial exploitation of these non-timber resources could not be documented ($P=0.133$). However, a potential loss of current levels of access to wild plants and fuel wood for home consumption is a major concern. To compensate for a potential loss of current levels of access, respondents require a minimum payment of 12% of their monthly income on average ($P=.001$; willingness-to-accept compensation: WTA). For each 1% restriction of summer pasture area, WTA is 0.7% of income ($P<.0001$). Training measures for bee-keeping ($P=0.001$), cheese production ($P<.0001$), and tour guiding ($P<.0028$) are well-appreciated (positive willingness-to-pay, WTP). Considering the three investigated national park areas, there are pronounced regional differences between the three regions.

In view of the precarious economic situation of the rural population of the case study areas, our results highlight that restrictions of local land use (non-timber forest products, other natural resources, summer pastures) in favor of conservation concerns need to account for potentially substantial economic losses of local smallholder farmers and herders. Buffer zone management may benefit from regionally differentiated training measures that increase local non-farm incomes. To promote socially integrated conservation planning, project results were discussed and shared with academic, professional and civic society organizations from Tbilisi, Erevan, Teheran, and Ganja as well as with respective national park staff and the organization tasked with international protected area coordination.