

Institutional arrangements for agro-environmental policy implementation in agrarian reform settlements in NW Mato Grosso, Brazil

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This case study specifically examines the institutional impacts of Integrated Conservation and Development projects (ICDPs) promoted for forest conservation in Northwest Mato Grosso (NW MT). The study evaluates institutional variables and small farmer perspectives about land use on family farms in agrarian reform settlements, on lots of between 50-100 hectares. The study is based on a sample of farmers in three municipalities (Juína, Juruena, Cotriguaçu) with varying exposure to ICDPs between 1995 and 2012. We assessed ICDP impacts on the perceived feasibility and legitimacy of land use regulation, assessed through on farm surveys, interviews and a participatory workshop. In particular, we assessed land tenure, compliance with land use regulation, views on the national Brazilian Forest Code, and perceptions on environmental governance.

Results indicated that the national Brazilian Forest Code had considerably less influence on settlers' land use decision making than did other criteria. In contrast, ICDPs increased the relevance and legitimacy of land use registration and licensing instruments administered by the state of Mato Grosso. As the latter also owe their origin to the Forest Code, these instruments were found to be potentially synergetic. However, the feasibility of participation in the state regulatory system was embedded within ICDP-induced institutional arrangements, which incorporated concern for livelihood security, support for cooperative organization and material infrastructure, and attention towards reducing farmer transaction costs.

Results also indicated the emergence of community-based arrangements for natural resource management in situations where ICDPs incentivized productive activities in the context of the formal regulatory environment, rather than constraining or deferring land use. The social legitimacy and relevance of Vale do Amanhecer's environmental license was assured through its emanation occurring simultaneously with the promotion of livelihood opportunities. The latter were further supported by the formal certification, tax relief and supply chain stimuli for Brazil nut production and processing activities. The community's commitment toward management of its collective forest reserve emerged in response to such provisions for production and marketing infrastructure. In particular, sustained ICDP presence was observed to produce institutional synergies. A 6-year combination and sequence of interventions established formal environmental regulatory compliance in coordination with local collective action around an alternative commodity chain.

The new October 2012 Brazilian forest code significantly changes forest management rules for small farms in settlements. In the settlements under consideration in this case study, between 80 and 100% of forest restoration liabilities were removed under the new law. As such, the environmental registration system for rural land use, or *Cadastro Ambiental Rural* (CAR), may have limited potential as a stand alone instrument for forest conservation in settlements, especially where the majority of previously permitted land use change has already occurred. While new forest code rules may simplify the process of attaining legal compliance, significant forest and biodiversity conservation challenges remain in settlements: how to incentivize forest restoration and farm agrobiodiversity, and continued land tenure insecurity (as land reform beneficiaries continue to be denied permanent title). By coordinating local cooperative organization with regulatory and market instruments, local or landscape scale incentive programs may be best positioned to attend to such land use policy challenges.