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Decentralization, market integration and efficiency-equity trade-offs: Evidence from Joint Forest Management in Ethiopian villages[☆]



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ABSTRACT

Extant literature on Joint Forest Management (JFM) impact evaluation has concluded that it generally does not provide sufficient incentives to justify the costs that forest use restrictions impose on local people. However, there is a dearth of evidence concerning whether alternative JFM intervention with improved market linkages for non-timber forest products has similar implications. In this study, we evaluated the income and distributive effects of a JFM program in Ethiopia in which additional support was provided for improved market linkages for non-timber forest products (NTFPs). Exploiting exogenous variation in customary rights across eligible groups of communities that participate in JFM programs, as well as using heteroskedasticity-based instrumentations, we identified the income and distributive effects of the program. Our analysis shows that the program has raised the income of the households who chose to participate by approximately 400 Ethiopian Birr or 26% of per capita expenditure; that result was robust to various specifications. We also found that this effect is largely driven by

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marketing incentives to use non-timber forest products. However, we found that the program's benefit is biased toward the upper end of the income distribution, a result that points to the inequality-reinforcing effects of the program.

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Introduction

Recent years have seen decentralization of natural forest management to local communities in many developing countries to counteract the economic and environmental ramifications of deforestation (Agrawal and Gibson, 1999; Agrawal and Ostrom, 2001; Bluffstone, 2008; Bluffstone et al., 2013). These reforms followed decades of continued deforestation under the state property rights regime.¹ Because these reforms have been based on theoretical predictions and anecdotal evidence from local case studies, rigorous empirical evaluation of the welfare, distributive and environmental impacts is needed. It is difficult to draw generalized conclusions about their impacts because the nature and extent of these reforms have varied across programs and countries (Bluffstone et al., 2013). In this study, we evaluated a Joint Forest Management (JFM) program in Ethiopia. We tested whether the JFM program, which was augmented by marketing support for non-timber forest products (NTFP), raises income (in terms of per capita expenditure) among rural households. Moreover, we tested whether there is distributional bias across poor and non-poor program participants. To do so, we exploited a policy (natural) experiment, in which some forest-using villages were able to access JFM, while other, similar villages were not.

Essentially, decentralization policies are intended to halt deforestation through stewardship of the existing forest stock. This entails exclusionary rules put into place to achieve ecological sustainability, as well as incentives for local communities to restrict forest harvesting and give up agricultural land expansion. Such incentives can come in the form of economic benefits realized through decentralized management of forests.

In the various countries where JFM has been adopted, there are two major concerns about whether such reforms can offer sufficient incentives for communities to forgo shorter-term benefits. First, more often than not, forestry management decentralization has taken the form of JFM, which aims at forest conservation by placing significant restrictions on forest harvests, charcoaling and agricultural encroachment, practices that have been shown to lead to deforestation and forest degradation under *de facto* open access regimes (Robinson and Lokina, 2012). In these cases, communities are granted limited entitlements in JFM programs, which appear to be insignificant as incentives for active participation in forest protection. For the most part, villagers are entitled to extract minor forest products, such as fuelwood, traditional medicines and non-timber products for domestic use only and are allowed to access ritual sites (Kajembe et al., 2005). In some cases, the rents accruing from improved forest stocks under JFM do not accrue to the local communities alone, but are shared with the state in the form of user's fees (Jumbe and Angelsen, 2006; Lemenih and Bekele, 2008; Robinson and Lokina, 2012). In either case, it is not clear whether the program's benefits outweigh the opportunity costs borne by members of these communities.²

¹ State regulation of natural forests has been constrained by insufficient budget, staffing and facilities (Kumar, 2002), coupled with imperfect incentives and prohibitively high information, monitoring and enforcement costs. This led to excessive extraction of both timber and non-timber products under open access regimes. Decentralization policies are based on the idea that resource management by people living adjacent to forests can be more viable and cost-effective than state enforcement (Agrawal and Gibson, 1999).

² The net incentives are likely to be non-existent if we consider the forgone income from deterred agricultural land expansion. Potential agricultural income may increase as a result of rising prices for agricultural products or increasing agricultural productivity due to, for example, improved seed varieties, fertilizer, herbicides and other technologies (Gelo and Koch, 2014). In that case, the opportunity cost of committing forest land to standing forest instead of converting it into agriculture may not be compensated by income from JFM.

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