



SHODH

# POLICY BRIEF

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IFRI- Collaborative  
Research Center

## Reversing relationship between NTFP Dependence, Market Proximity, and forest quality through JFM

Non-timber forest products (NTFP) have an important role to play in the household economy of forest-dwellers in developing countries like India. However, the quantity and quality of extraction of NTFP depend on various aspects. This study looked at two relationships; proximity to market impacting dependence on NTFP collection; and extent of dependence on NTFP collection impacting quality of forest. The study also attempted to establish the role of JFM committees in the light of that relationship. The questions explored were: Does the dependence on NTFP change as the distance from a market-place changes? What is the likely impact on forest quality due to this variation? What is the role of local forest governance institutions in mediating this relationship? In case of the first question, the study confirms the well-established direct relationship between distance from a market-place and NTFP dependence, i.e. as the distance of a village from market increases, dependence on NTFP also increases. Because in case of villages with better access to markets, household income levels are higher with a substantial contribution coming from non-farm, non-forest employment sources. In case of NTFP dependence and forest quality, the relationship is found to be inverse i.e. higher the dependence, poorer is the forest quality. The study concludes that with institutional interference this relationship can be manipulated/impacted. With programs like JFM, villages that are far from market centers can be offered alternate income avenues for reducing their dependence on forest, and can be encouraged to protect (and not over exploit) NTFP yielding trees by offering them incentives.

### STUDY AREA AND RESEARCH METHOD

The study was conducted in an area of high poverty and forest dependence in the dry tropical forest belt of central India. Three communities from Gadchiroli district in Maharashtra State were studied. The three sample villages differ in distance from major provincial market. The market-place also stations the Divisional Forest Office, which supervises the administration of the forest area in the sample villages. The villages are registered under the Joint Forest Management (JFM) program and are federated under a common Forest Development Agency (FDA) at Wadsa. Khairi, a heterogonous village is the closest to the market, followed by Mohtola/Kukadi, and Bharritola. To capture information on various aspects of NTFP dependence, use, forest condition, and institutional strength, research instruments developed by International Forestry Resources and Institutions (IFRI) were used. Additionally, household sample survey of 10% of households from each sample village was conducted. The study was undertaken to understand:

- ▶ If dependence on NTFP (as a proportion to total income) increases/decreases in relation to distance from major market in the vicinity.
- ▶ If higher dependence on NTFP results in forest degradation.
- ▶ If local forest-governance institutions can potentially mediate this relationship.

## BACKGROUND

Forests are known to provide tangible and intangible benefits. NTFP form a part of tangible benefits as sources of food, raw material for household commodities, source of cash income from marketing. There is much excitement about the large livelihood and sustenance potential of NTFP. This is more so in developing countries like India, where NTFP have a significant role to play as the rural population depends on them. However, large dependence is also accompanied with the dangers of unsustainable use. Thus, despite significant economic and livelihood benefits to local communities, there are evidences of NTFP increasingly being harvested in unsustainable ways, leading to the degradation of forests and depletion of forest quality. But, there are differences in the level of extraction of NTFP by communities placed in different circumstances. Scholars have identified a wide range of factors that determine the level of extraction of NTFP by rural households. Access to market, local institutions, resource-use are some factors that studies in Asia, Latin America and Africa have demonstrated to have a bearing on the level of NTFP use. This study tried to find how does

### NTFP DEPENDENCE

	Khairi (closest to market)	Mohtola/ Kukadi	Bharritola (farthest from market)
<i>Percentage of farm income</i>	39	37	38
<i>Percentage of income from other sources</i>	21	6	3
<i>Percentage of forest income</i>	40	57	59

higher level of extraction affect forest condition, and how local institutions can effectively monitor and regulate NTFP extraction and uses.

## KEY LESSONS AND POLICY IMPLICATIONS

For the residents of the three villages NTFP play a critical role in their lives and livelihoods. But, there is a clear relationship between the degree of proximity to the market, and NTFP dependence. The village closest to the market has the lowest NTFP dependence, as there is substantial contribution from non-farm, non-forest employment sources. Additionally, active participation of women in decision-making and monitoring activities, regular patrolling, effective rules for forest-use, a strong sense of ownership, and effective sanctioning mechanism has made the forest-governance institution strong. In contrast, the village farthest from the market has the highest dependence on NTFP due to lack of alternative income and employment options. A weak forest-governing institution plays a limited role, mainly due to lack of inputs from the Forest Department. The village is geographically less accessible and is also located in a region of extreme



insurgent activities. The dual impact of reduced forest dependence and presence of a strong JFM institution is visible in the condition of Khairi's forest. Levels of plot erosion and livestock damage are significantly lower, and tree species richness and tree density are significantly greater in Khairi, the village closest to the market, when compared to the

other two villages. NTFP species like *Madhuca longifolia* (moha) have been severely impacted by harvesting in the village farthest from the market reflecting unrestricted harvesting and lack of effectiveness of the local institution.

Thus, the need for institution building is the greatest in the village farthest from the market and with highest NTFP dependence. Participatory programs like JFM and FDA need to specifically focus on villages which have high forest-dependence but weak institution to manage it sustainably. Additionally, it

is also important that allotment of forest area to rural communities is linked to their level of forest dependence. The village farthest from the market in this study has the highest forest dependence, but the least forest area under its protection. It is the other way round for the village closest to the market.

It has to be kept in mind that collection of NTFPs is often done due to lack of alternate reliable sources of income and also because it acts as a cushion during times of crisis. But its collection is highly seasonal and unreliable. Thus, it is important that local

FEATURES OF LOCAL INSTITUTIONS			
	Khairi	Mohtola/Kukadi	Bharritola
<i>Initiation of forest protection</i>	Forest Department - people could perceive scarcity of forest products	Forest Department along with constant guidance from local NGO	Community-initiated, but later included in the JFM program
<i>Present status</i>	Registered under JFM, federated under FDA	Registered under JFM, federated under FDA	Registered under JFM, federated under FDA
<i>Formal representation across class, caste, gender</i>	Good	Partial	Poor
<i>Informal participation across class, caste, gender</i>	Good	Good	Poor
<i>Frequency of Executive body meetings</i>	Once a month	Once a month	Once a month
<i>Frequency of General body meetings</i>	Irregular	Half yearly	Once a month
<i>Existence and nature of Forest protection teams</i>	Yes, voluntary and daily	Yes, voluntary and daily	Yes, voluntary and daily
<i>Participants in forest protection</i>	Men and women	Men and women	Men
<i>Restriction on use of timber (house construction, agricultural Implements)</i>	No tree trunks, only branches, thorny shrubs for fencing	No felling of fruit trees for house construction	Only big trees, selective cutting of teak and fruit trees
<i>Rules for Fodder</i>	Restrictions on grazing in plantations	Restrictions on grazing in new plantations	Restrictions on grazing in plantations
<i>Rules for fuel wood</i>	Non-useful species, dry and fallen branches	Dry and fallen branches only	No restrictions
<i>Effectiveness of rules</i>	Partial	Partial	Poor
<i>Sanctions for forest offence committed first time</i>	Seizure of forest product and fine equivalent to value of product	Pardoned	Pardoned
<i>Sanctions for forest offence committed second time</i>	Seizure of forest product and fine equivalent to value of product	Nominal cash fine, increase in fine amount with severity of offence	Pardoned
<i>Sanctions for forest offence committed third time</i>	Taken to Forest Department	Nominal cash fine, increase in fine amount with severity of offence	Can be sent to jail
<i>Effectiveness of sanctions/level of infractions</i>	Good	Partial	Poor

institutions get inputs from the Forest Department to facilitate better organization of NTFP collection and sale to ensure fair prices and sustainable extraction. This would provide the much needed impetus to villages that are highly dependent on forest to be able to get out of a vicious cycle of low income, high dependence on the forest, consequent degradation of the resource, and further decrease in income. The communities can be helped out of the cycle by shifting their dependence from primary products like NTFPs to either value added products, or to off-forest, off-farm options of income and employment.



Women participating in plantation activities in village Mohtola/Kukadi

FOREST CONDITION	
Variable	Statistically significant differences between forests
<i>Plot erosion</i>	Mohtola/Kukadi > Khairi; Bharritola > Khairi
<i>Livestock damage</i>	Bharritola > Khairi
<i>Species richness - 10 m plot (tree)</i>	Khairi > Mohtola/Kukadi; Khairi > Bharritola
<i>Density - 10 m plot (tree)</i>	Khairi > Mohtola/Kukadi; Khairi > Bharritola
<i>Species richness - 3 m plot (sapling)</i>	Mohtola/Kukadi > Bharritola
<i>Density - 3 m plot (sapling)</i>	Bharritola > Mohtola/Kukadi



This policy brief is an outcome of a study by SHODH entitled "Alternate income opportunities and dependence on non-timber forest products". The study report (No. 01-06) is available at SHODH at 50, Kinkhede Layout, Bharat Nagar, Nagpur - 440033, M.S., India  
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SHODH undertakes research projects for exploring socio-economic aspects of rural and tribal population; anthropogenic impacts on ecosystems; and various aspects of environmental degradation and restoration of ecological balance. It also undertakes awareness building and human resource development programs in rural and tribal areas; conducts training programs for teachers and students from rural and tribal areas; and aims to undertake activities for emancipation of women and child development.

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