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Factors affecting participation in joint forest management in the West Bengal state of India



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ABSTRACT

This study analyses participation in joint forest management (JFM). The study is based on in-depth interviews with 150 households of Forest Protection Committees (FPC) in Paschim Medinipur district in the West Bengal state of India. Based on a Principal Component Analysis (PCA) of 14 participatory indicators, it follows that “social” aspects of participation are considerably less important in West Bengal than as found elsewhere in India, while the perception of the environment (first and third factor) stand out as the most important aspects of participation in JFM, jointly explaining almost half of the variance. Regression analyses indicate that household size, the number of forest committee meetings, religion of the household, willingness to pay of the household for the forest protection and the size of land holding are important variables for explaining variation in levels of participation. Results from estimating game theoretic models on participation among villagers in JFM indicates that in two out of the four possible situations, harmonious sharing of the benefits is an (Nash) equilibrium, but not unique. In all cases, institutional checks and balances are needed to guarantee mutual participation, which is possible only by strengthening the JFM management body.

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Introduction

Forest is an important source of livelihood for the forest (fringe) communities in India. The National Forest Policy (NFP) outlined and conveyed to State Governments a framework for creating massive people's movement through the involvement of village committees for the protection, regeneration and development of degraded forestlands situated in the vicinity of villages (MoEF, 1990). Joint forest management (JFM) is now the central policy of the forest sector in all the 28 states of India (Pangannavar, 2011). Considering the ruthless exploitation of forests in West Bengal, legislation on JFM involving local communities in the process of protection and management of the forest was introduced in 1989. The concept of JFM is based on care and share. Current participatory approaches, methodologies and tools are widely used in the forest sector (Warner, 2005; FAO, 2005; UN, 2005).

There is a wide literature supporting the case for JFM (Bhattacharyya et al., 2010; Das, 2011; Nayak and Berkes, 2008). The World Bank study reveals that the economic returns from JFM in West Bengal are considerable (Hill and Shields, 2008). Bandyopadhyay and Shyamsundar (2004) using the National Sample Survey data from 524 villages in five states in India finds that household participation in JFM has a significant positive impact on consumption. The findings of Ghate and Ghate (2010) based on the primary data collected from six villages in the state of Maharashtra in India indicate that the relationship of indigenous communities with the forest continues to be non-exploitative and non-commercial. In fact, it has to be recognised that non-timber forest products (NTFPs) extraction becomes an important incentive for forest preservation (Dutta et al., 2004).

In spite of the various advantages, JFM in India is beset with many problems. It has been alleged that the structure of JFM is found to be skewed towards the forest department (Tiwari, 2005). It has been suggested that the present structure that is tilted towards the forest department, needs to be clearly balanced with equal opportunities and rights to the communities participating in JFM programmes (Upadhyay, 2003). The experience of West Bengal relating to the extent of women's involvement in JFM and their role in JFM suggests that despite women's greater involvement in JFM in NTFPs, they are commonly excluded from participating in community institutions for JFM. The state JFM resolution does not explicitly mention women as independent; nor does it mention a minimum representation by women (Sarker and Das, 2002; Sarker, 2009). Roy et al. (2001) observe that even when there is a lot of disagreement in a meeting and the meeting is inconclusive, the close interaction during the meeting may have positive long term implications. This is due to a close connection between meetings (frequency and attendance) and forest status through the resolution of internal conflicts, leading to the smoother operation of forest preservation activities. They stressed the need to involve all villagers (and especially women) in meetings.

West Bengal is one of the few states in India where the per capita forest area is rather low (0.01 ha) and the density of population around the fragmented forest is high. There is a tremendous pressure on the forest in the state because of socio-economic problems like poverty and unemployment in the forest (fringe) areas. Though problems have been tried to be tackled through formation of forest protection committees (FPCs), there are cases of illicit collection of timber and poaching of wildlife (GoWB, 2009). It has also been observed that there is a clear declining trend in biodiversity due to illegal logging and killing of animals in some areas of West Bengal (Tisdell et al., 2001). There is an urgent need for more cooperation to develop the forest through community participation as it is linked with the livelihood of the forest (fringe) community. As the pressure on land is already high in the state and agriculture is dominated by marginal farmers with low returns, sustainable JFM can generate livelihood support to the poor forest fringe people. Various studies show that in many institutional settings of rural India, forests are better managed when people's voluntary participation is secured (Ravindranath and Sudha, 2004; Lise, 2007).

The situation of voluntary participation by members of a JFM organisation can be analysed as a game theoretic model. A situation could be called harmonious if there are sufficient incentives for participation in JFM among JFM organisation members. If this is not the case, there could be various conflict situations such as the prisoners' dilemma and the chickens' game. An example of a harmonious JFM situation is the assurance game, where mutual participation has the highest preference. Different studies show that the behaviour and determinants of cooperation varies from region to region. There are a limited number of studies into the behaviour and attitude of the community in JFM. Moreover,

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