



## Analysis

## Does It Pay to Participate in Decision-making? Survey Evidence on Land Co-management in Jiangsu Province, China

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## ABSTRACT

Member participation in decision-making is a critical part of resource co-management. However, little is known about the welfare consequences of participation. This paper analyzes the impact of cooperative member participation in decision-making on their incomes, using data from 364 members of China's land cooperative program. We distinguish two levels of participation in decision-making – voting and obtaining financial information – and use a bivariate probit model and propensity score matching to estimate their impact. The results indicate that household head's age, gender and education and family size, wealth, and political affiliation determine participation in decision-making. Participation in either voting or obtaining financial information has a positive impact on cooperative members' land income. There is also a strong joint effect of voting and obtaining information, with an increase in land income of > 16%. We conclude that broad participation can ensure more equitable access to land income for members.

## 1. Introduction

Over the past thirty years, policies and programs in natural resource management have developed towards promoting co-management in developing countries across the globe (Agrawal and Ostrom, 2001; Mansuri and Rao, 2012; Persha and Andersson, 2014), with the key objective of decentralizing decision-making (Baynes et al., 2015). Typically, co-management requires resource users to actively participate in decisions on the use of natural resources (Behera, 2009). By including local people in decision-making processes, co-management programs can usually overcome information asymmetries commonly found in top-down approaches and allow for the integration of local and indigenous knowledge in resource management (Blaikie, 2006; Dasgupta and Beard, 2007). In addition, co-management programs often aim at achieving equitable benefit distribution from resource use and may generally provide a sustainable way to manage natural resources (Agrawal, 2001; Adhikari et al., 2004; Tachibana and Adhikari, 2009).

Despite its popularity, however, co-management often fails to achieve its objectives, particularly in terms of the devolution of decision-making (Acemoglu and Robinson, 2008; Mansuri and Rao, 2012). Decision-making processes are often captured by local elites (Saito-Jensen et al., 2010; Lund and Saito-Jensen, 2013), and thus less-affluent

households have little voice in them (Mansuri and Rao, 2012; Thondhlana et al., 2015), casting doubt on the actual inclusiveness of decision-making in co-management programs. A lack of inclusiveness in decision-making tends to prevent all participants' preferences from becoming adequately reflected in the institutional setup and operation of co-management programs. In the end, then, access to benefits critically depends on decisions made by people who control such programs (Bardhan, 2002).

Although previous studies have investigated benefit distribution between elites and non-elites in co-management programs, there is to date limited knowledge on the question of to what extent engagement in decision-making processes can affect program member benefits. Empirical studies show that, in some cases, elites who control decision-making processes act in their own interests and, as a consequence, benefit disproportionately (Platteau and Gaspard, 2003; Kamoto et al., 2013). In other cases, however, benefits are distributed more evenly – even in the presence of elite control (Dasgupta and Beard, 2007; Fritzen, 2007). More recent studies have investigated the welfare effects of membership in co-management programs, implicitly assuming that households take an active part in co-management activities (Jumbe and Angelsen, 2006; Mazunda and Shively, 2015; Rahut et al., 2015), with active participation often being operationalized by investigating attendance rates at meetings (Prokopy, 2009) or occupation of posts in a

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given organization (Agrawal and Gupta, 2005). However, it has more recently been recognized that not all members in co-management programs attend meetings and that those who do may not necessarily be actually involved in decision-making (Chhetri et al., 2013; Lestari et al., 2015).

The objective of this paper is to analyze the impact of members' participation in decision-making on their incomes from cooperative co-management. Here we develop a new approach to participation in resource co-management. Specifically, we argue overall that one must distinguish between different levels of involvement in an organization. First, members may control the fate of their organization by taking part in elections, for instance, if leaders are selected. Second, members may choose different levels of effort when gathering information about important developments concerning the organization (Fritzen, 2007). We provide here what is to our knowledge the first quantitative analysis of member benefits obtained from a co-management program that distinguishes between these two levels of engagement, as we believe that doing so will enhance our understanding of collective action in natural resource management, explicitly acknowledging the demand for greater inclusiveness in co-management (Prokopy, 2005; Li et al., 2014).

In our empirical analysis, we focus on the land cooperative program, a policy for the co-management of community-owned agricultural land in China. While there are many studies focusing on co-management in Africa or South Asia (Dasgupta and Beard, 2007; Fritzen, 2007; Mansuri and Rao, 2012; Kamoto et al., 2013), few studies have thus far dealt with China. The land cooperative program is popular in eastern China, particularly in Jiangsu Province, where our study is located. Unlike co-management programs that evolve from a top-down governance approach in other countries (Mansuri and Rao, 2012; Ayers and Kittinger, 2014), the land cooperative program evolved from the household responsibility system, under which land resources have been freely de facto managed by the villagers for many years.

This paper is organized as follows: Section 2 introduces the land cooperative program in China, developing a theoretical framework on the causal channels of participation in decision-making affecting land income, and Section 3 describes our data collection and empirical strategy. Meanwhile, Section 4 presents our results, followed by discussion in Section 5, and conclusions and policy implications in Section 6.

## 2. Background and Context

### 2.1. The Land Cooperative Program

Since the late 1970s, rural land in China has been managed under the household responsibility system. Ever since then, farm households have been able to contract with village committees for use of agricultural land, which was primarily distributed according to household size, labor availability or both in the family. Households have been free to cultivate the land they received and were able to retain land revenues, as long as they paid taxes and grain quotas to the government. Such tax and grain quota delivery obligations, however, were removed nationwide in 2006. Earlier, contracts had had a duration of 15 years and then were extended to 30 years. In 2008, a central government document explicitly stated that the contracting relationship should become permanently stable and unchanged and that a land market should be encouraged (CCCPC, 2008). In this sense, land distributed under the household responsibility system can be seen as having turned into a de facto form of private property.

Although the household responsibility system has substantially contributed to rural and economic development in China (Rozelle and Swinnen, 2004), repeated land adjustment according to changes in family size and labor availability to achieve egalitarian land distribution has led to land fragmentation (Tan et al., 2006), which has become a problem due to poorly developed land markets. Until 2006, in Jiangsu Province, one of the most developed areas in China's market

economy, < 10% of agricultural land had been rented on the market (Liu et al., 2017). Meanwhile, rapid industrialization and urbanization have provided many employment opportunities in the urban sector, allowing for labor migration and the consolidation of agricultural land. A key objective of the land cooperative program has, therefore, been to consolidate fragmented land, with a particular emphasis on efficiency gains and large-scale commercial farming.

The land cooperative program started in the 1990s in Guangdong Province. In 2002, it spread to Jiangsu Province and has been widely implemented following the introduction of the cooperative law in 2007. Under the land cooperative program, villages are free to establish land cooperatives that can fulfill the functions of local land markets (Ho and Lin, 2003; Chen, 2015). Households that want to quit farming can transfer the land they had previously been working to the local cooperative and become members of it. The cooperative then consolidates member-provided land by hiring farm employees to cultivate it or by leasing it to farmers who bid the highest price (Liu et al., 2016).

The land cooperative program embraces co-management principles, meaning that it encourages the active participation of members in decision-making (Chen, 2015). According to the Regulations of Jiangsu Province on Specialized Farmers' Cooperatives (2009), major decisions taken by such cooperatives must be made jointly by members in regular meetings. Decisions may concern, for instance, the revision of by-laws and regulations or the selection of managers, board members, and member representatives. Large land cooperatives have the opportunity to delegate authority to representatives (elected by a general assembly) who act on behalf of all members. In addition, the distribution of revenues among members is decided upon at meetings. At least once a year, meetings will also report on the cooperative's financial performance. Information on both the distribution of revenues and cooperative finances is made available to members via booklets or posters in the cooperative's office, where members can then inform themselves.

In exchange for their land, cooperative members receive land income in the forms of land rent and dividends (Chen, 2015). Land rent per *mu* (a Chinese unit of area, with 1  $\mu$  equaling 0.07 ha) is a fixed income component, regardless of the profitability of the land controlled by a cooperative, and is meant to guarantee a minimum land income for households. A dividend is a variable income component, determined by a cooperative's profit and the total shares a household owns in the cooperative (Tian and Zhu, 2013). Typically, when the household joins the cooperative, 1  $\mu$  of land is exchanged for one share. However, the exchange rate may be adjusted by various factors. For example, Yep (2015) shows that larger households or households with fewer old and young members often receive more shares. Yet such exchange rules undermine the transparency of the exchange processes, because ordinary members cannot keep track of other members' land areas or demographic characteristics. From the individual member's perspective, the exchange process and the subsequent pattern of dividend distribution can, therefore, be described as something of a black box that is under the control of cooperative leaders or member representatives. Our field survey indicates that households often cannot distinguish between income that comes from land rent or dividends. In addition, they usually do not know how many shares they actually own in the cooperative, which makes it easy for cooperative power holders to manipulate dividend distribution.

### 2.2. Impact of Participation in Decision-making on Land Income

Democratic governance can be partially or entirely undermined by existing power holders (Acemoglu and Robinson, 2008). Similarly, households who gain power in co-management programs may be able to capture disproportional benefits at the expense of others (Pérez-Cirera and Lovett, 2006). In the Chinese land cooperative program, only a small proportion of members appear to actually actively participate in decision-making processes, and different levels of engagement among those who do participate are likely to exist. Following Fritzen (2007),

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