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# Key factors which influence the success of community forestry in developing countries

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ABSTRACT

While community forestry has shown promise to reduce rural poverty, improve reforestation and potentially offset carbon emissions, many projects have failed, either partly or completely. In order to understand why community forestry succeeds or fails, we examined in detail the literature related to community forestry from three countries, Mexico, Nepal and the Philippines. We also drew on experiences in other countries in Asia, Latin America and Africa. We identified five main interconnected factors which the literature suggests are often critical to the success of community forestry. To integrate the many ways in which community forestry projects can improve the state of these factors, we use the concept of 'bonding social capital', i.e. communities' ability to work together towards a common aim and 'bridging social capital', i.e. their ability to liaise with the outside world. To understand the interaction of the five success factors and the way in which improvements to bonding or bridging social capital may affect them, we developed a causal diagram which depicts the interrelationships between the success factors and the key points at which project inputs may be best applied. It is clear from our analysis that failing to appreciate both the complexity and interaction of the various influences may lead to project failure.



## 1. Introduction

Over half a billion people in developing countries are now dependent on communally-managed forests (Agrawal, 2007). Community forestry is an increasingly important form of forest management (FAO, 2010) and has developed in response to concerns that centralised forest ownership in developing countries has failed to promote sustainable management (Schusser, 2013; Maryudi et al., 2012; Casse and Milhøj, 2011; Sunderlin, 2006). As a broad approach to combating forest degradation, shifting forest ownership from governments to local communities has become a global trend (White and Martin, 2002; Bixler, 2014). The underlying principle is that communities are in the best position to manage and protect forest resources, provided they see that it is in their interests to do so (Larson, 2004; Shrestha and McManus, 2007; Maryudi et al., 2012). Recent research has supported the view that community-managed native forests have lower and less variable rates of deforestation than protected forests (Porter-Bolland et al., 2012).

However, community forestry projects and programs have had mixed success. Community forestry is widely reported as improving forest management, social cohesion and rural incomes (e.g. see Padgee et al., 2006; Charnley and Poe, 2007; Antinori and Rausser, 2008; Chhetri et al., 2013) although claims of increased income and livelihood benefits have been questioned (for example, see Fisher (2014) for an overview of income and livelihood benefits from community forestry in Asia). Another limitation is that governance is rarely democratic (Laurel et al., 2005; Beauchamp and Ingram, 2011). Local autonomy, even if it does exist, does not automatically assist people to engage in the wider political framework and, if government officials are not supportive, community groups are often forced to bribe them or resort to passive or active resistance (Moeliono et al., 2010). Other recent research has indicated the critical importance of financial viability (Humphries et al., 2012) and harvest rights (Roy and Alam, 2012). Lack of genuine high-level government support, (e.g. see Egbe, 2001; Alzula et al., 2005; Sikor, 2006; Hodgdon, 2010) has led to suggestions that in some situations, community forestry is a sham.

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Alternatively put, community forestry has underperformed worldwide (Sunderlin, 2006) and community forestry project goals are rarely comprehensively achieved (Maryudi et al., 2012).

A further complication is the multidimensional nature of 'success'. For example, Le et al. (2012, 2014) in discussing factors affecting the success of reforestation projects in the tropics, identified over 30 commonly used indicators of success, which are in turn influenced by a complex mix of technical, biophysical, financial and environmental characteristics. The success of community forestry also depends on the social context in which it is applied (Arnold, 1987). As a result, many studies use single case analyses which may ignore factors which only indirectly influence success (Padgee et al., 2006). Recent research has also attempted to tease out some of the psycho-social issues which are difficult to pin down, e.g. the influence of leadership style on people's participation, (see Sinha and Suar, 2005) and the effect of local people's values and priorities on decision making (see Sheil et al., 2006). Hence, any definition of success is predicated by the assessment criteria and indicators involved and the perspective of the people making judgements. As such, in this paper we have accepted the views expressed by individual authors concerning community forestry success.

Recently, a number of studies have sought to examine the links between success and the factors which explain it. A disadvantage of these studies has been their narrow focus (e.g. forest conservation, Casse and Milhøj, 2011; participation, Chhetri et al., 2013; elite benefit capture, Persha and Andersson, 2014) or discovery of a large number of independent variables (e.g. 43 independent variables, Padgee et al., 2006). The narrow focus of context-specific research papers also often excludes generation of theory which is applicable to wider situations. Hence, many authors acknowledge the need for community forestry project managers to understand the factors which drive the success of community forestry and the interactions between them (see Lawrence et al., 2007; Charnley and Poe, 2007; Maryudi et al., 2012).

In this review, we address the need for a conceptual model which sets out the drivers of successful community forestry in developing countries. In the next section, we present our interpretation of the concept of social capital and its application to community forestry. We then outline a general definition of community forestry. Because community forestry has been an important instrument of government policy in Mexico, Nepal and the Philippines, we review the recent literature relating to community forestry in these three countries in particular. We also draw on case studies from other countries as appropriate. Using empirical case studies as source material, we identify a list of factors influencing the success of community forestry and then evaluate the importance of these factors. Finally we present a causal diagram as a model of the factors which affect the success of community forestry.

## 2. Applying the concept of social capital to community forestry

Developing social capital represents one of the ways in which development agencies can engage in capacity-building to achieve social and environmental objectives (Sharpe, 1998) and it is thus well suited to community forestry projects. However, the term 'social capital' is misleading, confusing and malleable (Pawar, 2006; Smart, 2008) because instead of encouraging precise definition of factors such as socio-economic class, race, power relationships and conflict, much of the literature uses buzzwords such as 'empowerment' and 'participation' (Fine, 2007).

In our review, we adopt Cramb's (2006) description of social capital as the relationships of trust, communication and cooperation that facilitate collective action in a community. In this context, social capital involves shared values and hence a potential for social cooperation. Hence, it supports 'adaptive capacity', i.e. the ability of communities to cope with and respond to change (Coleman, 2011).

A further division of the concept of social capital into *bonding social capital* and *bridging social capital*, allows the plethora of minor factors which affect community development to be examined under these umbrellas. Bonding social capital is the degree to which communities are able to undertake collective action. Bridging social capital includes those factors (e.g. liaison with government officials) which affect communities' ability to liaise with the outside world and absorb technology (e.g. see Bizikova et al., 2012). Hence, in the following analysis, where appropriate, we interpret factors which influence the success of community forestry, in the context of bonding or bridging capital and the interventions which community forestry programs can make to improve them.

## 3. A general definition of community forestry and the background to community forestry in Mexico, Nepal and the Philippines

Community forestry is used in this paper as a generic term to cover a variety of projects and programs which may go under different names in different countries. We also refer to Community Forestry Groups (CFGs) as a generic term, although different national programs use a variety of different terms, (e.g. Community Forestry User Groups in Nepal). Community forestry programs began with a 'focus on involving communities in government programmes for reforestation and forest protection [and] have gradually evolved [in theory] towards more devolution of decision-making power . . . and more active use of forests by the local communities' (Fisher et al., 2007, p. 3). The essence of the concept is the involvement of locally resident groups in aspects of forest management. Hence, management of native forest, small-scale plantations, fruit and rubber trees may be included under the general umbrella of community forestry. In addition, land and tree tenure arrangements may range from a *de facto* privatisation of land, to use rights recognised by a government but without formal ownership, to communal ownership and management with common rights and responsibilities.

### 3.1. Background to community forestry in Mexico

The potential for communal land ownership was legislated into the Mexican constitution of 1917 and strengthened through agrarian reform from the 1930s to the 1980s. As a result, approximately 75% of forested land is under collective tenure and over 50% of collective holdings are forest communities (Merino-Perez, 2013). Community forestry is based on two types of agrarian land tenure. Communities may gain legal recognition as *communidades agrarias* based on land titles given to indigenous communities in the Spanish colonial period, or *ejidos*, land grants to petitioners who may or may not have a historical connection to the land (Bray et al., 2006; Barsimantov et al., 2011). Within the territory managed by both *communidades* and *ejidos*, agricultural plots and houses are privately owned but other land, including pasture, forest and water bodies are considered commons. In principle, community assemblies are responsible for forest management, but in some regions, forest areas have been parcelled out as a result of agricultural policies and legislation (Merino-Perez, 2013).

CFGs currently enjoy freedom to enter and exit commercial marketing arrangements (Antinori and Rausser, 2008). However, the federal government maintains strong controls over forest resources, e.g. through harvesting regulations and environmental