

Final Thesis Report  
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**MAKING IT COUNT: A LIVELIHOODS ASSESSMENT OF EXTERNAL ACTOR INTERVENTIONS IN  
INDIAN COMMUNITY-BASED FOREST MANAGEMENT**  
*EVIDENCE FROM THE BHADRACHALAM SOUTH FOREST DIVISION.*



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I present my findings and the implications of my research in order to stimulate further research and learning. My research is not an end, and I hope it inspires others to build upon my findings and take up questions left unanswered.

## Glossary

<i>Adivasi</i>	Umbrella term used to describe the heterogeneous ethnic and tribal groups who originally inhabited India
<i>Angenwadi</i>	Literal translation “courtyard shelter”. Established as part of the public health care system to combat malnutrition and hunger. Distribution point for contraceptive counselling and supply, nutrition and medicines, and pre-school activities.
<i>Brahmins/Brahminical</i>	Descriptive of one who is a member of the highest Hindu caste
<i>Crore</i>	Numerical value of 10 million
<i>Dalit</i>	One who is a member of lowest Hindu caste, traditionally regarded as “untouchable”
<i>Davara</i>	Shaman or traditional healer
<i>Dhal</i>	Dried lentil/pea/bean
<i>District</i>	Administrative boundary comprised of multiple <i>mandals</i>
<i>Gram Panchayat</i>	Local government institution at the village or small town level (comprises multiple <i>gram sabhas</i> )
<i>Gram Sabha</i>	All adult members of the village
<i>Jowar</i>	Sorghum, cereal crop
<i>Lakh</i>	Numerical value of 10 thousand
<i>Mandal</i>	Area of land within the city/town that services as an administrative center (comprised of multiple <i>gram panchayats</i> )
<i>Naxalite</i>	Extreme anti-state guerilla revolutionary movement advocating Maoist communism or a “peoples democracy”
<i>Nistar</i>	Concession granted for the removal of forest. Rates are fixed by the forest department for specified produce in consultation with the District Collector
<i>Nizam</i>	Traditional ruler of Hyderabad
<i>Patel</i>	Village leader
<i>Patta</i>	Legal document for land ownership
<i>Paddy</i>	Semiaquatic rice
<i>Podu</i>	Shifting cultivation
<i>Pujari</i>	Village priest and messenger to the <i>patel</i>
<i>Saara</i>	Alcohol distilled from the mahua flower
<i>Santa</i>	Local weekly market held in <i>mandal</i> headquarters
<i>Sarpanch</i>	Elected leader of <i>panchayat</i>
<i>Vana Samrakshana Samiti (VSS)</i>	Forest protection committee instituted as per the JFM guidelines

## List of Abbreviations

AP	Andhra Pradesh
APFD	Andhra Pradesh Forest Department
BPL	Below Poverty Line (less than 2\$ US/day)
CBFM	Community-Based Forest Management
CBO	Community-Based Organization
CFM	Community Forest Management (scheme)
CFR	Community Forest Rights
CFR-LA	Community Forest Rights – Learning and Advocacy Process
CPR	Common Pool Resource
CSD	Campaign for Survival and Dignity
DFO	District Forest Officer
FAO	Food and Agricultural Organization
FD	Forest Department
FBO	Forest Beat Officer
FRA	Recognition of the Forest Rights Act (2006)
FRC	Forest Rights Committee
FRO	Forest Range Officer
GCC	Girijan Cooperatives Corporation
IAD	Institutional Analysis and Development
IKP	<i>Indira Kranthi Patham</i> (Program under SERP to build institutions – village organizations, SHGs, Mandal Samakhyas and Zilla Samakhyas, provide financial assistance and assist in rural livelihood development)
INR	Indian Rupees
ITDA	Integrated Tribal Development Agency
JFM	Joint-Forest Management
MO	<i>Mandal</i> Officer
MoTA	Ministry of Tribal Affairs
MoEF	Ministry of Environment and Forests
NGO	Non-Governmental Organization
NREGS	National Rural Employment Guarantee Scheme
NTFP	Non-Timber Forest Product
PESA	<i>Panchayat</i> Extension to Scheduled Areas
PO	Project Officer
SDLC	Sub-District Level Committee
SERP	Society for the Elimination of Rural Poverty: Constituent of the Department of Rural Development. Tasked with the implementation of the National Rural Livelihoods Mission
SHG	Self-Help Group)
ST	Scheduled Tribe
TRIFED	Tribal Cooperative Marketing Development Federation of India
VSS	<i>Vana Samrakshana Samiti</i> (Village Forest Protection Committee)
VO	Village Organization



## Executive Summary

This report analyses an in depth case study, conducted in the Bhadrachalam South forest division of Andhra Pradesh (AP), India. It investigates external actor activities in community-based forest management, and the livelihood implications attributable to them. Specifically, it applies concepts of historical institutionalism, path-dependency, and critical junctures to explain the livelihoods impact of external actor interventions against the backdrop of the tenure transition initiated by the enactment of the Forest Rights Act (FRA) of 2006. The research finds itself at the epicenter of a wealth of sustainable development literature. In particular, concepts from international development, sustainable livelihoods, forest management, external organizations and historical institutionalism are operationalized to construct a coherent theoretical framework. Observations and data collected through semi-structured interviews, household surveys, and document analysis from two tribal forest-dependent villages are examined within this context. The structure of the report is explained in detail below.

The abstract provides a brief summary of the research, results and implications to help the reader quickly ascertain the purpose and key findings of the research. The introduction will provide the reader with a problem description and the identification of the knowledge gap, and its relevance. The research question, subquestions and objectives are then presented. Next, the literature review provides the reader with a coherent understanding of how the research holds a place in the sustainable development literature, and what discoveries have been made up to this point. The literature review concludes with a theoretical framework that illustrates the dynamic interplay among the theoretical elements, and identifies the impetus for and barriers to sustainable institutional reforms and livelihood development in a community forestry context. The methods chapter follows with the methodologies employed to analytically examine the phenomena in a real world context through the derivation of assessment indicators. Then the relevant background context is introduced to give the reader a brief understanding of the progression of India's national forest policy, its implications, and its stakeholders. The study area is then introduced to provide the reader with an understanding of the locality in which the research was conducted, the justification for the case selections, and a brief ethnographic profile of the local tribal population which reside in both study villages. The results of the research are presented from the data collection and analysis that were undertaken. The implications of the results are then discussed in light of the current academic literature. Finally, the conclusion serves to answer the research question and sub-questions to summarize the most important findings of the research, and opportunities for researchers who wish to take up questions left unanswered.

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## Abstract

*Decentralization of forest tenure and subsequent community-based governance regimes are supported among scholars and practitioners as vehicles for both sustainable collective action, and the improvement of forest-dependent livelihoods. In India, well-intended community forestry programs and tenure reforms in support of this conviction have frequently become stagnated in practice. The implementation of the Forest Rights Act (FRA) has been no exception, largely due to complex political-economic struggles with incumbent power holders at both regional and local levels. Some of these policy actors and institutions, out of a desire to maintain the power that naturally follows the ownership and control over forests and their resources, have reacted with intransigence to the reforms embodied in the FRA. This institutional inertia seriously impedes the potential for a new and more sustainable path to be realized by frustrating the implementation process and further threatening the livelihoods of tribal forest dwellers, who depend on forest resources for their survival. Under such circumstances, external actors present themselves to support and empower communities through (1) improving access to key livelihood assets, and (2) assisting the institutional reform endeavor both locally and beyond. That notwithstanding, the extent to which positive livelihood outcomes follow external development interventions remains unclear. This report attempts to provide thorough empirical analysis of institutional capacities, livelihood assets, and the mechanisms by which external actors can cause changes in these attributes. Two villages were examined post-FRA, in the Bhadrachalam South Forest Division of Andhra Pradesh. One village has received substantial help from actors external to the community, and the other has experienced no external actor involvement. Substantial institutional reform has occurred in the treatment village, while the control village lags behind. Similarly, the treatment village has seen some positive change in the access to certain livelihood assets. The treatment village is (1) harvesting more products, benefiting more, and benefiting more/unit harvested from their forest, (2) perceiving forest-related conflicts to be lower, and (3) has experienced infrastructure development as a result of a more prosperous forest economy, and (4) is meaningfully participating in governing activities, relative to the control village. The evidence suggests that the variability in these outcomes can in part be explained by specific activities undertaken by external agents which (1) build capacity among villagers, (2) provide technical administrative support, and (3) advocate local interests. The research concludes that while the short-term gains of the intervention is apparent, it is unclear the extent to which the changes will be sustained for self-governance over the long term. Some evidence suggests a lack of self-sufficiency amidst these new arrangements, which inevitably give new meanings to the relationship between the community and the forest land.*

## Chapter 1: Introduction

The destitution of forest-dependent communities, caused by the degradation and depletion of forest resources and the loss of their associated ecosystem services, is a complex social and ecological problem. It is a problem policymakers and development practitioners struggle with worldwide. In spite of extensive efforts around the world to protect and enhance forests, deforestation and forest degradation, accompanied by poverty, among forest-dwellers persist. According to the World Bank (2014), 1.2 billion people presently live on less than \$1.25 (USD) a day. Sixty percent of these people are concentrated in five countries: Bangladesh, China, Democratic Republic of the Congo, Nigeria, and India. The largest number of these people, estimated to constitute 30% of the world's extreme poor, live in India, and many of them are forest dwellers. Forestry affects the livelihoods of approximately 200 million Indian people. Forestry is the second-largest land use after agriculture, and constitutes a significant component of the natural resource capital in the economy (Chopra, 1993; SAMARTHAN, 2012).

Global forest supply is ever diminishing. In the past 8,000 years, the earth's forest cover has reduced by nearly half, devastating forest-dependent communities (Sunderlin et al., 2005). While approximately 22 percent of India was officially designated as "forest", reportedly half of this area showed no tree cover in satellite imagery (Guha et al., 2012). We see that people shape forests – through ongoing livelihood use, policy development and formal management practices. We also see that forests shape people – their habitat and material practices, technology, identity and culture (Springate-Baginski & Blaikie, 2007). Despite the fact that they live in the midst of extremely valuable natural resources, tribal forest-dwelling communities are home to some of the poorest people in India. The devastation caused by deforestation, however, negatively impacts more than the livelihoods of forest-dependent populations. It also leads to other environmental crises through the loss of forest ecosystem services. The declined functionality of forest ecosystem services (particularly regulation and provision) contributes to other symptomatic problems such as the loss of biodiversity and anthropogenic climate change.

Extensive empirical work has concluded that livelihood degradation associated with the loss of integrity in forest ecosystems has been in part attributable to poor management and overuse enabled by centralized governance regimes (e.g. Dietz et al., 2003; Ostrom et al., 2007; Ostrom, 2009; Sunderlin et al., 2005). State and market-oriented panaceas operationally exclude local knowledge and tend to render natural resource systems more susceptible to elite capture, conflict, and generally undesirable outcomes for the communities who depend on the forests to sustain their livelihood and forest ecology. Recognition of the complexity of the problem of deforestation is central to the development of a multi-faceted solution.

Certain forests may be characterized as "commons". These are forests that have low excludability (the exclusion of beneficiaries through physical and institutional means is costly), but are highly subtractable (the exploitation by one user reduces the stock for others), and their ownership and governance is typically communal (Rout, 2010; van Laerhoven, 2010). These characteristics are problematic for forest governance regimes when it comes to ensuring an equitable and economical allocation of resource yields (appropriation) and provision to the people. Problems of appropriation tend to arise when the benefits from harvesting resource units are private, while the costs are shared. Provision problems tend to arise when the cost of investment in exclusion (for example by the creation of exclusion rules) exceeds the expected benefits of doing so (Gardner et al., 1989; Barnes & van Laerhoven, 2014a). Problems of provision also tend to arise when the costs of sustainable forms of governance institutions (or lack thereof) are private, leading to a free-rider problem (or race-to-the-bottom) to arise among public beneficiaries. Provision and appropriation problems can perpetuate the tragedy of the commons when the institutional architecture is such that it effectively encourages individuals and user groups, acting exclusively in their own self-interest, to exploit resources in a manner that is contrary to the common interest (see Hardin, 1968).

Neither state entities nor private companies clear-cut forests out of wanton destructiveness. They do so in response to market signals – land tenure and use rights, pricing and regulation, taxation and subsidies – which make the behaviour both logical and profitable (FAO, 2012). This is supported by empirical research derived from social experiments in CPR settings, which demonstrates that humans will pursue their individual interests to the detriment of the resource (i.e. by free-riding), when the benefits of doing so outweigh the costs (see Olson, 1965; Schlager, 2004). The fact that such destructive behaviour can be both logical and profitable combined with the prevalent institutional architecture causes significant



problems of appropriation and provision to arise. The result is that many forest dwellers in developing countries are effectively locked into a position of vulnerability. Many forest-dependent communities have been and continue to be effectively excluded from the substantial benefits, which flow from the development of the forest resource system. This exclusion can largely be attributed to the lack of secure and documented rights to the land, which forest dependent communities occupy and cultivate to sustain themselves.

The plight of India's forest dwellers has long been a focus for both conservationists and human rights advocates. The state forest department (FD) has been the formal owner of forest land since its colonial inception. The department extracted resources to meet industrial needs. In addition, purportedly for the purpose of conservation, the FD demarcated protected areas, which resulted in the displacement of affected forest dwellers (see Kabra 2009; Rangarajan & Shahabuddin, 2006 for a detailed account of this). The commercial and conservation priorities held by the FD, and the measures adopted to achieve them, transgressed the traditional rights and vital interests of the indigenous forest dwellers (*adivasis*). The balance was thereby shifted from the livelihood interest of the traditional forest dwelling communities to the interest of the state, and the commercial value of the forests. Indeed, the FD frequently referred to these traditional forest peoples as "encroachers" of the forest land on which their very survival depended. The FD restricted access to the forest and essentially took control of the timber and non-timber markets. Hefty fines were imposed on members of the *adivasis* community when they engaged in subsistence felling for house construction. These people, described in the preamble to the Forest Rights Act, 2006 as "...traditional forest dwellers who have been residing in the forests for generations ..." became tenants of their traditional lands. They became subject to eviction to serve the state's interest.

In communal forest environments where multiple user groups have diverging interests, it is particularly challenging to strike a balance between meeting the livelihood needs of people today, and adequately conserving resources to sustain future generations. Multi-disciplinary research has demonstrated that the looming threat of deforestation can be effectively ameliorated by decentralizing tenure, and establishing modes of self-governance that are crafted to promote sustainable collective action (e.g. Agrawal, 2001; Andersson & Ostrom, 2008; Larson et al., 2007; Leach et al., 1999; Ostrom, 2000). The extent to which decision makers take into account environmental effectiveness, economic efficiency, equity, and political legitimacy is important when it comes to ascertaining sustainable outcomes (Adger et al., 2003; Ostrom, 1999b). Institutional arrangements, based on principles of cooperation, trust and knowledge sharing are prerequisites to fostering sustainable collective action.

Community-based forest management (CBFM) programs have been recognized as a viable means of attaining desirable institutional arrangements and sustainability. CBFM involves the transfer of control of forest resources from the state to local communities through statutory recognition of communities' rights to manage the forest (Samii et al., 2014). This institutional change formally apportions the value of forests among policy actors in a manner that recognizes the contribution of forests to human welfare development. The objective is to rectify the imbalance between the use of the forest for the economic and commercial gain of state actors and private entities and the use of the forest as a source of sustenance for local forest-dwelling communities (Agrawal et al., 2013). Ostrom (1999) confirms that self-governing institutions frequently outperform governments in producing sustainable outcomes, for both the forest and the forest-dependent community. Fortunately, many such paradigm shifts towards decentralized governance models through the expansion of CBFM programs are underway in developing countries across Asia and South America. Devolution of forest tenure and the diversification of responsibilities among user groups is a policy measure that is capable of significantly reducing the information gap between the state's scientifically robust knowledge and the context-sensitive knowledge of the traditional forest dwelling community. This gap is considered to be a principal cause of governance failure in forest resource management. Implementation of policies to devolve forest management can beneficially lead to the construction of a social fence to protect the forests from grazing, fire and illegal logging (Behera, 2009).

In 2006, at the instance of the Ministry of Tribal Affairs (MoTA), the Indian Parliament enacted the FRA in an effort to rectify historical injustice to the tribal forest dwellers caused by centralized polity. This statute marks the inception of a governance paradigm shift from the *status quo* regime of centralized state control, to a devolved tenure system designed to allow local communities to manage their forest lands sustainably. The FRA vests the ownership of the forest area within traditional boundaries of use for

sustenance with the fringe-communities, through the provision of Community Forest Rights (CFR). CFR titles provide the legal framework by which the “forest dwelling Scheduled Tribes and other traditional forest dwellers” (preamble FRA) are empowered to manage, protect, regenerate and sustainably use their forest resources (CSD, 2010). The stated purpose of this landmark legislation was to rectify nearly 150 years of injustice to the *adivasi* people caused by state appropriation of forest land.

The story does not end with the implementation of a supporting legal framework. In practice, tenure transitions involve a shift from a path characterized by centralized control over forests to one where power to manage the forest is devolved to the local communities who have traditionally lived in, and obtained their livelihood from, the forest. This is a highly political process because it involves a substantial redistribution of control over the resources and the power that comes with ownership. Empirical research suggests that the pattern of change tends to be opposed by institutional inertia, reinforced by powerful incumbents, who stand to lose their historically disproportionate share of the benefits (see Ghate, 2009; Ribot, 2003). This is certainly the case amidst the tenure reform and subsequent institutional change accompanied by the implementation of the FRA in India (e.g. Gopalakrishnan, 2012; Kant & Berry, 1999; Maharatna, 2013; Reddy & Kumar, 2010; Reddy et al., 2010a; Reddy et al., 2010b; Springate-Baginski & Blaikie, 2007; Springate-Baginski, 2013). This shift brings with it significant uncertainties with respect to securing a consistent and equitable flow of benefits from the forest to the community.

Civil society organizations, and supporting government agencies (actors external to the community – external actors) tend to intervene when communities are subjected to insecure tenure and conflicts with other users, exacerbated by a weak and politicized rule of law (Andersson, 2012). External actor interventions in community-based forestry are generally motivated by a desire to contribute to the facilitation of local institutional arrangements for self-governance and sustainable collective action, to avert provision and appropriation problems and/or to enhance local livelihoods and the robustness of institutions through capacity building. Barnes and van Laerhoven (2014b) have, however, observed nuances in external interventions in CBFM. They contend that external actors employ a diverse range of approaches, depending on the institutional context in which they operate. This could play a role in determining which activities to implement, and ultimately shape livelihood outcomes for the community.

The theoretical paradigm of self-governance in the commons literature focuses on the capacity of local communities to sustainably manage their common pool resources by crystallizing their common interests into institutions through which collective action is taken. In practice, a number of external organizations define community institutional organization as their core business, thus establishing a theoretical tension between the presence of external actors and the extent of “self” in self-governance (Barnes & van Laerhoven, 2013). Enhancing rural livelihoods is a cornerstone of the many activities undertaken by such actors. Adding value to livelihoods and capacities among the rural poor depends on the external organization’s level of success in fostering autonomous grassroots (i.e. bottom-up) institutions, thereby establishing connections with markets and political structures at higher levels in order to allow poor people to increase returns on their assets (Edwards, 1999; Moser & Dani, 2008). Bebbington et al. (2002) assert that there are two ways in which an intervention can cause changes in a community’s livelihood. The first is by directly increasing access to assets. The second is by indirectly increasing access to assets by stimulating institutional change for the purpose of altering the constraining structural elements in the existing institutional architecture. The support must correspond with the community’s needs. Projects typically fail if the actors implementing them misperceive the way in which people get by and get things done (Bebbington, 1999). It makes sense, therefore, to judge external actor interventions by their impact on livelihood outcomes, through institutional changes or otherwise.

There are many aspects to an external intervention, which are essentially a function of the context in which the agency operates. Interventions external to the local community do not emerge without reason. Typically there is some form of stimulus that generates a response, whether it is a particular event, a series of events, a call to action among actors working for a common cause, or simply the personal passion to make a difference in the lives of others. The motivation can serve as a precursor to the way in which an actor may approach the implementation of a certain program or activity. Activities subsequently have a particular effect on the target group (outcome). The way in which the activity is approached and motivated can additionally lead to different patterns of implementation, and a variation in outcomes.

The agendas of external actors are increasingly designed to influence the components of governance. It remains to be seen, however, what this increased emphasis on governance has accomplished in the context of sustainable forest development. External actors employ distinct approaches, which determine the course of the activities, which arguably stimulate the necessary institutional change intended to lead to forms of self-governance (Barnes & van Laerhoven, 2013; Barnes & van Laerhoven, 2014b). Previous studies have identified the importance of external organizations in supporting local efforts at self-governance of forest resources, although there has been limited empirical analysis of the outcomes associated with these efforts (Andersson, 2012). The soaring popularity of business activities in the social sector has elicited calls from scholars and practitioners to adopt appropriate methodologies to measure the accomplishments of their activities (Kroeger & Weber, 2014). As a result, increasing pressure is mounting on external actors to demonstrate the results of their work. There is a knowledge gap regarding whether the activities undertaken by external actor interventions in forestry actually succeed in generating positive livelihood outcomes. Few empirical studies have been conducted on the subject, and those that have, conclude that the true impact of development work undertaken by external organizations remains unclear, particularly in a sustainable livelihoods context (Andersson, 2012; Larson et al., 2007; Roche, 1999). This lack of empirical research provides an opportunity for further investigation.

### Research Objectives

The research objective is to assess the expected livelihood impacts associated with external actor interventions in CBFM to determine whether and in what ways external interventions undertaken by both government agencies and NGOs are a significant impetus to sustainable development in forest-dwelling communities. The accomplishment of this objective will contribute to the alleviation of the knowledge gap regarding the role of external actors in facilitating the effective arrangement of institutions for the promotion of sustainable collective action in CBFM and the subsequent implications for dwellers' livelihoods. In other words, the extents to which external actors have an impact in sustainable forest development. The intended academic contribution of this research is threefold. Firstly, I will develop a clear framework and methodology by which to judge the relative impact of external interventions in terms of livelihoods. Secondly, I will compare a situation in which external actors are present with another that has received no intervention. I will operationalize local livelihood conditions and sustainable institutional arrangements into measurable indicators to critically analyze their contribution to improvements in this regard. Lastly, I will provide empirical insights into the trajectory of community-based forest management pursuant to the provisions of the Forest Rights Act 2006.

### Research Question

In an attempt to address the knowledge gap regarding the livelihood contribution of external actor interventions in CBFM, the central question guiding this research is as follows:

***To what extent and in what ways do interventions in CBFM undertaken by external actors contribute to sustainable forest development in tribal communities in Andhra Pradesh, India?***

The central research question will be answered by analyzing the results of a quasi experiment, in which two villages (one treatment, one control) were investigated. The independent variable (the external actor intervention) was observed in isolation so that changes in the dependent variables (components of sustainable forest development) would become more apparent and directly attributable to the independent variable. The first sub-question deals with the observed differences between the variables that constitute sustainable forest development: (a) community livelihood assets and (b) sustainable institutions. The following question will guide the comparison of the assessment criteria between the two study villages:

1. *Is there a significant difference in the outcomes regarding: (a) local institutional arrangements, and (b) access to community livelihood assets, depending on the presence of external actors?*
  - a. *How have institutions changed over time?*
  - b. *How has community access to livelihood assets changed over time?*

Assuming that there is a variation in the components of sustainable forest development, the processes by which the independent variable causes changes in the dependent variable needs to be understood. Therefore, the independent variable should be broken down into components. The context in which the external actor is working, and the motivations and approaches (inputs) that serve to guide the individual activities (outputs) need to be explored:

2. *What are the motivations, approaches (inputs) and associated activities (outputs) undertaken by external actors?*

The final sub-question should establish the link between the inputs/outputs and the expected outcomes in terms of both access to livelihood assets and the extent to which local institutions are sustainable:

3. *How do approaches, motivations (inputs) and the associated activities (outputs) explain any observed variation in the components of sustainable forest development (outcomes)?*

Comprehensively answering the above questions requires a clear framework, by which the specific research activities will be guided (Figure 2). An extensive literature review provides the theoretical framework, which synthesizes key concepts to explain the social phenomena under study (external actors and how they fit in the sustainable CPR governance context). The literature review provides the justification for the derivation of a set of assessment criteria by which to judge the relative success of the external actor interventions. Following this quasi experiment research design, two villages were selected, controlling for as many variables as possible with the exception of the presence of an external actor. Fieldwork consisted of collecting qualitative and quantitative data by the means of semi-structured interviews with key informants (e.g. villagers, government officials and NGO workers), a household survey, analyzing relevant documents (working plans, microplans, CFR claims) and participatory observation. The results for each village are compared so as to provide insight into causal mechanisms through which the intervention causes changes in the outcomes. This will determine whether or not it is reasonable to expect a positive or negative impact on the livelihoods of the community.

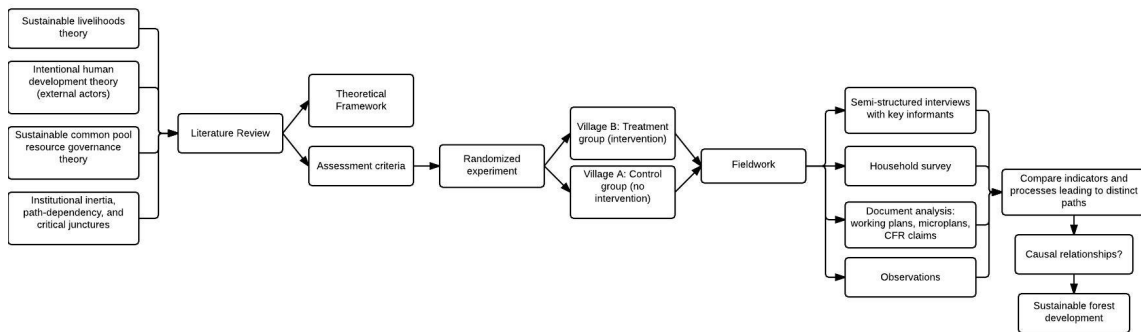


Figure 1. Research Framework

## Scholarly Relevance

This research follows the vision held by the Copernicus Institute that sustainable development is a matter of collective action. The report assesses the extent to which external actors may play a meaningful role in the pursuit of sustainable forest management in India by examining and analyzing the outcomes attributable to the external actors. The two action situations are explored in hopes of revealing new insights into the potential of external interventions in respect of self-governance and sustainability goals. When self-organized communities are able to develop their own internal institutional arrangements for regulating, monitoring and enforcing forest resource use, they often outperform governments in maintaining sustainable forest conditions (Andersson, 2012). This research has a well established link with the academic literature regarding the extent to which external interventions create added value through influencing locally initiated institutions to sustain and improve the livelihoods of forest-dependent communities.

An assessment of the livelihood outcomes attributable to external actor interventions has significant societal relevance. In the body of participatory development literature, sustainable management of forest resources towards its user groups has been deemed one of the most feasible options to combat rural poverty, to promote community-level economic development, and to conserve biodiversity (Das, 2012). The poor populations of the world are directly dependent on natural resources, through cultivation, herding, collecting or hunting for their livelihoods. It is estimated that over 200 million people in rural India depend on the forest for at least part of their livelihoods: socially, culturally, or for subsistence needs (Das, 2012; Sarker, 2011). Additionally, the implications of the continuation of poorly managed forest resources have more distal, but significant ramifications for off-forest livelihoods. Clearly, if livelihoods are to be sustainable, the natural resources on which they directly or indirectly depend must be sustained (Rennie & Singh, 1996). This research aspires to contribute to the empirical debate with respect to the effectiveness of different activities undertaken by external actors and with a view to promoting sustainable livelihoods.



## Chapter 2: Literature Review

The following literature review canvasses the relevant ongoing academic discussion. It follows the structure of the research questions and the guiding principles of the research contained in Lave & March's (1975) method for deriving a theoretical model. First, the academic debate regarding external actor interventions in CBFM and other development work is fleshed out. The social phenomenon of variable sustainability in forest development, as partially the result of external actor interventions is then discussed. There is some evidence to suggest that the activities of NGOs and government agencies working with communities in the CBFM realm, might tend to undermine the role of "self" in self-governance.

To begin this discussion it is necessary to unpack the academic debate regarding whether or not, under which circumstances, and to what extent intentional development interventions are likely to have a positive or negative impact upon the communities in which they occur. Then the implications of external interventions for livelihoods (outcomes) according to Bebbington et al.'s (2002) typology of developmental activities will be discussed. This report will draw on the enabling conditions for sustainable common pool resource management, as well as livelihood assets defined by the sustainable livelihoods framework (SLF), as proposed by Scoones (1998).

It is important to consider the three components mentioned earlier:

- (1) the motivations, approaches, and goals (inputs) of the external intervention,
- (2) the specific activities (outputs) undertaken by the external actor that are guided by the inputs, and
- (3) the changes, if any, in livelihood assets (outcomes), either through improvements or a deterioration in the sustainability of local institutional arrangements, or through providing or failing to provide increased access to key livelihood assets.

Elements of the socio-political context will be considered as exogenous, and will be controlled for to the extent that it is possible in the field. Additionally, the context will be investigated because it also provides insights into some of the trends that are observed.

### External Actors: Friends or Foes?

There is a particularly relevant debate in the academic literature, as to whether external actors help or hinder the endeavour towards sustainable forest livelihoods amidst a tenure reform in a highly political economy. Two types of external actors are considered in this section: NGOs, and government agencies. Both of these actors are external to the community, and present themselves to intervene in forest development affairs.

*"External non-governmental actors can either be a catalyst for the growth of a forestry program and better management, or can be a bottleneck that prevents its development and contributes to degradation"* (Barsimantov, 2009, p.52). Barsimantov (2009) contends that such outcomes are related to the external actor's motivations towards providing development assistance. When activities deployed by external agents are motivated by income from forest resources, and activities are directed at the forest rather than the people, it is likely to be succeeded by a vicious cycle of exacerbated degradation. For example, writing management plans on behalf of the community can be done with little oversight and accountability in villages with low participation levels in forest governance. Such an activity yields no significant benefit to the community that the external organization claims to be representing, and is not a sustainable strategy for the long term. Alternatively, when activities are motivated by grants from donor agencies for community development, external agents are assumed to adopt a correspondingly altruistic character, and a virtuous cycle ensues. Activities of this sort are focused on the people in the community rather than on the forest. Activities likely to result in virtuous cycles take the form of capacity building among members of the community. In other words, external actors may exacerbate unsustainable institutional inertia through their activities, or stimulate a critical juncture in the path towards resource degradation and create a new, more sustainable path towards achieving a virtuous cycle (Kant & Berry, 1999; Barsimantov, 2009). This theory calls into question what sort of cycle, or path will develop in situations where no robust accountability mechanisms are in place. It does not address the question of how one determines what sort of cycle or path has developed as a result of the external intervention where no robust accountability mechanisms are in place. This is of concern in cases of organisations lacking resources sufficient to enable them to conduct official impact assessments of their activities based on context-specific assessment criteria.

Theoretical work on polycentric governance suggests that the emergence of self-governance arrangements is more likely when external organizations support communities by offering low-cost access to forums for conflict resolution, recognizing and backing local rule making and enforcement of those rules, and facilitating information exchange between local actors and technical experts to solve local problems (Andersson, 2012; Barsimantov, 2009). These expectations were empirically solidified by Barnes & van Laerhoven (2013), who discovered that the involvement of external actors improved the likelihood that more durable and sustainable forms of collective action would result from stimulating increased awareness among villagers, encouraging the development of management skills, and increased inter-village connections through workshops to facilitate continuous learning.

Roy's (1995) evidence from West Bengal emphasizes the crucial role of external organizations in mediating village interactions. He noted that (at times) the findings and feedback from information gathered from NGOs were so comprehensive and convincing that higher level policy-makers had to modify resolutions and orders. Springate-Baginski & Blaikie's (2007) extensive research on Indian forestry through the lens of political ecology also claims that forest activists, intellectuals, NGOs and supporting government agencies (e.g. the Integrated Tribal Development Agency) played a crucial role in representing forest users against the injustices perpetrated by the state forest administration. This is supported by Bawa et al. (2006), who found that positive results ensued when the Ashoka Trust for Research in Ecology and the Environment (ATREE) intervened to enhance rural livelihoods and promote biodiversity conservation through the strengthening of village level and regional institutions. One result was an improvement of livelihoods due to increased income from NTFPs. Livelihood diversification, better agricultural productivity, and biodiversity were improved by more sustainable land use in the areas of the ATREE intervention. On the other hand, Wright & Andersson (2013) concluded that NGOs in Bolivia rarely have a tangible impact on communities' abilities to manage their own forest resources (rather it is the local municipalities who take on this role), but that their involvement may help in slowing deforestation.

Other scholars (see Bebbington 2004; Forbes, 1999; Mohan, 2001; Moyo, 2009; Shahbaz, 2010; Shah, 2010) have concluded that intentional development work undertaken by external actors has frequently disappointed civil society. Most of this work has indicated that the presence of external actors in developing countries, and the additional flows of financial and knowledge resources that comes with their presence, is a key part of the production and reproduction of social and economic interactions that give meaning to a particular "place"<sup>1</sup> (Bebbington, 2004). Forbes (1999) explores the manipulation of the "local" discourse by local development agencies, which claim to advocate authentic and sustainable development but in fact pursue different strategies according to their interests. Modifications to place may not actually be representative of those sought by the community, due to a misperception of the unique relationship forest-dwellers have with their environment, and the diverse interpretations of "local", and "indigenous" identity. Shah (2010) supplements this argument with the contention that external organizations tend to misunderstand village level social dynamics and village power relations by considering communities as a single entity. She concludes on the basis of evidence from a year of participatory observations in Jharkhand that in fact, organizations that profess to advocate for and represent marginalized groups actually end up hurting those whom they intend to help. This notion is in accord with Moyo's (2009) central thesis, which postulates that foreign funded development aid from wealthy countries to African countries actually exacerbates political corruption, poverty and disease, with no way to break the cycle of aid-dependency. This is particularly important in interventions with environmental undertones to support development. Shahbaz et al. (2010) argue that in a forestry context, without considering socio-economic realities at the village level, development and conservation interventions tend to overlook the diversity in claims and entitlements to the resource at hand, which does nothing to empower local communities.

Applying theory and lessons from political geography, Bebbington (2004) offers a critique of NGOs through empirical evidence from the Andes. He concludes that external policy actors are not well placed to make great contributions to poverty-reduction strategies. He claims this is so because the geographies of intervention do not reflect the geographies of poverty and livelihood in the community context. Thus the strategies of intervention are not sufficiently equipped to respond to the reality of the economic and

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<sup>1</sup> A collection of political, economic, social and environmental interactions that shape the way in which we respond to a place and thus change it (Cross, 2001).

spatial dynamics of poverty-stricken communities. There are reasons that development resources flow to some places and not to others, which could ultimately lead to increased inequality among potential program beneficiaries, as not all communities will receive the help that they need. Mohan (2001) observed that in Ghana, the local NGOs created their own fiefdoms of client villages. In these instances, the NGO adopted possessive tactics and paternalistic relationships with the communities in which they worked. This functioned as a vehicle for local elites to further their material, social and political status. Fragmented strengthening of civil society can actually undermine efforts at decentralization. In the face of increasing scrutiny by scholars and practitioners, external organizations have grown increasingly concerned to demonstrate the success of their activities. This has the somewhat ironic potential to motivate NGOs to direct their efforts away from those who are most in need to communities in which it is easier to achieve a demonstrable livelihood impact.

While NGOs may be helpful and generate positive outcomes by attempting to raise the level of the human capital in tribal forest dwelling communities, they may have their own agendas that do not coincide with actual community needs. For example, some NGOs have antagonistic relations with the government, which may harm the community-government relationships if the communities are seen to be allying with the NGO (Ascher, 1995). Communities are not always able to resolve conflicts internally without external assistance, especially in the face of external resource users, politics and policies.

Government agencies, particularly those in developing countries, similarly implement programs in order to improve the social welfare of their citizens. Comparable to the work undertaken by NGOs in the forest and development contexts, these programs and their implementation activities have produced mixed results and run the risk of creating state-dependence. The government is usually the ultimate arbitrator of user rights. In the Indian context, the FD is vested with supplementary authority because, in most cases, the FD is the formal owner of the land and its resources. Government control over resources, combined with a lack of transparency and accountability can be a recipe for corruption. Similarly, government control limits the opportunity of local inhabitants to compete in the economy, as they struggle to earn a livelihood amidst a well-established network between the public and corporate sectors. In some instances, the state has manipulated market and tenure regimes to create *de facto* monopolies over natural resource industries to the benefit of the administrators but unfortunately to the detriment of its citizens.

During a period of changing tenure, the government “*must steer between withdrawal and dominance*” (Ascher, 1995). Efforts undertaken by the government itself have received substantial criticism. Kellert et al. (2000) found that in developing countries, CBFM rarely resulted in more equitable distribution of power and economic benefits. Nor did CBFM bring about reduced conflict, greater respect for local knowledge, better protection of biodiversity or sustainable resource use. Kellert et al. (2000) argued that the implementation of CBFM is a highly complex undertaking, and frequently fails to deliver its intended benefits due to naïve assumptions. They suggest, therefore, a new set of general assumptions that are more representative of reality: interest group and stakeholder conflict should be expected; heterogenous interests and demographic differences will persist; extensive institution building is necessary before CBFM can be effectively implemented; significant disparities will exist between local human needs and the needs of the ecosystem, and educational efforts are necessary. Nayak & Berkes (2008) questioned the institutional landscape that emerges when the implementation of Joint Forest Management (JFM) replaces a pre-established forest management arrangement. They observed that villager participation in decision-making declined, common rights were eroded, salient institutional linkages between the village and outside agencies were abandoned in favour of a close relationship with the FD, and the administration of the forestry resources became politicized. Their findings illustrate that JFM’s “one size fits all” approach and narrow scope is likely to limit experimentation, learning and institutional innovation that characterizes the essence of what the policy ultimately aims to achieve: self-sustaining CBFM and the associated livelihood improvements. Successful forms of CBFM are, therefore, contingent upon the extent to which local factors are considered. This is a difficult task considering top-down implementation strategies tend to dominate in contexts of shifting tenure. “*Positive market incentives and supportive government policies are better than standardized top-down directives*” (Cramb et al., 2009, p.323).

Real community involvement in forest management cannot occur in the absence of respect and recognition by the FD of both the letter and the spirit of the FRA. This is a key step towards sustained viability of CBFM approaches (Thang et al., 2007). Community development projects undertaken by

government agencies can additionally be effective in providing increased access to livelihood assets, which may be lacking. These government supported projects, while often beneficial to the community in the short term, still raise the question whether such projects encourage self-sufficiency, and take internal social dynamics into consideration in order to reach all community members. The respective interests and goals of the agency are important to consider. It can, therefore, be surmised that certain types of government agencies can also follow Bebbington et al.'s (2002) typology of activities to contribute to local livelihoods in the CBFM context. The development and subsequent respect, recognition and anchoring of supporting laws can be seen as the necessary institutional change (type II) for successful implementation of CBFM. This is an essential responsibility of government agencies that will be required to devolve tenure (particularly the FD). Additionally, governments engage in direct provision activities by building capacity for improved human capital and providing communities with access to key livelihood assets through financing development projects (type I).

Livelihood improvements through direct provision of access to assets, and by institutional development techniques are the core focus of external forest development agencies (both governmental and non-governmental). The extent to which such goals are achieved plays a key role in acquiring sufficient legitimacy to secure funding for future NGO activities and to build up community trust towards the activities of government agencies. At times, the pursuit of legitimacy can elicit conflict between government agencies and NGOs. NGOs find their niche and legitimacy by filling the gap created by the government's inability to provide adequate civil services. Sometimes, the inability to recognize mutual interests, and/or clashing working styles can cause NGOs and government agencies to crowd each other out (see Parnwell, 2005; Nyborg & Rge, 2003) by duplicating efforts or implementing contradictory development frameworks. This can also force community members to take sides, further politicizing the atmosphere, and ultimately inhibiting effective governance modes to emerge. It is often forgotten that civil society is complementary, not a rival to representative democracy (Marschall, 2002). Scrutiny of NGOs and government agencies among academics has simultaneously triggered public debate on the issue.

A recent crackdown on NGOs, by both democracies and autocracies, has ignited conversations regarding the wider political implications of NGO presence or absence. Perhaps the most significant is the allegation that such groups promote certain values to be adopted that may not be compatible with the local context in which they are deployed. Foreign NGOs are accused for promoting Western values, including the idea that power should be monitored and justly distributed among many actors and institutions, and not hoarded by governments ("Who's afraid of the activists?", 2015). A supplemental argument, which works to sway industry and right-leaning individuals, is that international NGOs are simply fronts for leftists and environmentalists set on weakening Asian powers and sabotaging development. The harassment of NGOs by the public sector, however, can often uncover deeper flaws and patterns of irregular administrative behaviour. To the same tune, local NGOs in the Indian context "are either conspicuous by their absence or overshadowed by the personalities of their creators" (Ghosh, 2009, p.233). The pursuit of normative transfer, which naturally follows an intervention, could have either detrimental or very positive ramifications depending on the approaches and motivations behind the execution of the individual activities. That notwithstanding, it is political.

There has been a tendency in the literature to distinguish between NGOs and government organizations when analyzing intentional development programs. The reality is that sections of the public sector and the non-governmental sector frequently have very similar interests and goals in the case of institutional development for CBFM and poverty alleviation. The non-governmental sector and its work tend to emerge out of the belief that the public sector is failing to provide crucial social services. In circumstances where the government receives such criticism for providing its citizens with the most basic social services, governments (or at least the social welfare departments) will sometimes ramp up development programs and efforts to improve their public image. Whether these actors will compliment each other's activities depends on the extent to which they are willing to collaborate and realize their common goals. If they do not collaborate, they risk counter productivity, as duplication of activities and overall inefficiency become prevalent and can slow a community's trajectory to sustainable forest development. Regardless, both kinds of actors are external to the community. Considering government and non-governmental actors in the category of external actors, will allow for a more robust examination of the role and relative impacts of external actors, particularly amidst tenure reforms. This will provide further insight into the distinct role and efficacy of governmental and non-governmental actors in the pursuit of CBFM.

It is clear that external actors (both governmental and non-governmental) exert some influence over a community's ability to overcome collective action dilemmas in forest management. While some authors claim that such work fortifies institutional capacities, others claim it reinforces a class system which actually further marginalizes the poorest members in society. Much of the case for emphasizing the role of NGOs rests on ideological grounds rather than empirical verification (Edwards & Hulme, 1998). Based on the nuanced findings in the academic debate, it is suggested that the ways in which activities are motivated, developed and subsequently implemented will determine the tendency to one outcome or the other.

## Community Livelihoods (Outcomes)

### Enabling Conditions for Sustainable CPR Governance (via Institutional Change)

*"Forest resources share attributes with many other resource systems that make difficult their governance and management in a sustainable, efficient and equitable manner"* (Ostrom 1999, p. 1). In the academic literature, it is argued that forest ecosystem degradation and associated resource depletion in forest-dependent communities can be effectively ameliorated through the development of local institutional arrangements that promote sustainable collective action. The level and nature of collaboration impacts the means by which either sustainable or unsustainable outcomes may be realized. In CPR governance, when individuals act independently and rationally to maximize utility according to their self-interest, their behaviour may contradict the long-term collective interest, leading to a so-called "tragedy of the commons" (Hardin, 1968). Following the logic of maximizing utility, however, groups of individuals with similar interests may collaborate and engage in strategic behaviour to pursue collective goals that are in the best interests of the group. Empowering local actors, and thus making them directly responsible for the design of their own collective response to forest-related challenges through the means of bottom-up policy development, have frequently been regarded as an effective alternative to traditional top-down approaches to development (Crescenzi & Rodríguez-Pose, 2011).

Successful and sustainable common pool resource management that effectively deals with collective action dilemmas is contingent upon a number of institutional factors. Ostrom (2000) refers to the necessity of cooperation among user groups, prompted by normative congruency and trust. Additionally, the community must have the ability to organize, learn from others, acquire representative leadership, and have sufficient autonomy to craft a governance regime (van Laerhoven, 2010). It follows that incentives designed to appeal to the interests of relevant actors must be present in order to obtain sufficient stakeholder support for an endeavour. According to Pagdee et al. (2006), the resource must be adequately valued (either as a source of subsistence or commercial revenue). There must also be an expectation that benefits will accrue, and that those benefits exceed the costs of investing in the appropriate institutional development. Institutions are deemed successful when they endure over time, constrain users to safeguard the resource, and produce fair outcomes (Agrawal, 2001). The success of institutions is partially determined by the principles on which they are designed. Forest governing institutions must:

- (1) contain clear boundaries that outline designated areas for specific use by each user group,
- (2) correspond the rules in use with local needs and conditions,
- (3) designate clear ownership to use and manage the forest,
- (4) allow user groups to participate in rule making,
- (5) be monitored by community members,
- (6) employ a graduated system of sanctions,
- (7) have nested tiers of responsibility, and
- (8) low-cost and accessible dispute resolution mechanisms should be in place (Ostrom, 1990; Pagdee et al., 2006).

Ultimately, governance that specifies rule, monitoring and maintenance regimes contributes to the sustainable development of community forests (van Laerhoven, 2010).



The inclusion of local communities requires a process to ensure adequate representation among user groups. This is a particular challenge for the top-down implementation of new forms of decentralized governance. Political activity does not come naturally to some communities, especially those that have been subject to oppressive authority, and/or severe isolation. In such cases, the government agencies charged with bringing about the reforms embodied in the FRA, have a significant responsibility to ensure that these communities can meaningfully participate in the implementation of the reforms of the new regime. When members of new committees or local governing institutions are appointed by central agencies, there is a risk of skewing representation and benefit distribution by stacking committees with political allies or clients to favour the political objectives of the implementers (Ribot, 2008). If, however, representative local institutions are able to flourish and channel demands of the people in a sustained bottom-up manner, they may influence the response of higher-level government authorities because they have something important to offer (votes). Ribot (2008) calls these “virtuous cycles” of demand and response by which the needs of local people are met. Based on the above, it can be argued that a form of governance that respects both the conditions of the local forests and the community’s needs is essential for securing local livelihoods.

Forest resources are typically divided into two categories: timber products, which are manufactured and processed predominantly for commercial purposes (pulp and paper, plywood and blockboard), and non-timber forest products (NTFPs) which are used for fuel, medicine, fodder, fibre, or food, and more commonly harvested for subsistence needs (Sunderlin et al., 2005). NTFPs are of critical value to the subsistence economy of tribal communities, while the harvesting of timber products constitutes the main revenue-generating activity of the state forest department, and the primary motive for leases to private actors. The commercial and traditional value held by the forest points to a need for a participatory approach to governance, to effectively avoid the risk of elite capture, and further marginalization of the forest-dependent poor in the pursuit of predominantly commercial interests. Such institutional processes mediate the access to livelihood resources (in this case, the forest), which in turn affects the options to carry out particular livelihood strategies, and thus the scope for sustainable livelihood outcomes (Scoones, 1998; Krantz, 2001).

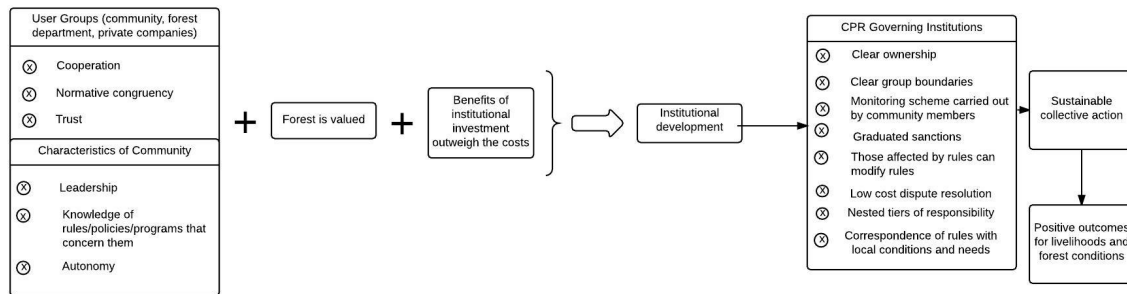


Figure 2. Theoretical Formula for Sustainable CPR Governance

### Hindering Factors

In theory, devolving tenure in order to establish self-governing and sustainable institutions is both conceivable and desirable. In practice, the dilemma of deforestation and the subsequent degradation of tribal forest-dwelling livelihoods are prevalent issues. Humans possess great capacity for change, but the ability to manage the course of change to yield the optimal outcome is still limited (Wilson et al., 2014). There is a dichotomy between rhetoric and reality when it comes to optimizing sustainability in CPR governance. While the motivation for, and the development of policies targeted at rural development may be well meant and beneficial at least in theory, there is a lack of pragmatism as far as implementation is concerned.

Transitioning from a centralized governance model to modes of self-governance is preceded by a degree of decentralization and devolution. Decentralization of governance and devolution of tenure is not and should not be treated as a universal remedy prescribed to forest degradation and its extensive implications. Ghatte (2009) notes that most decentralization reforms fail to reach their full potential because they are either flawed in their design or encounter strong resistance during their implementation from a variety of actors. She goes on to explain that there is a basic problem with devolving true power

and responsibility to implement policy, and that the concepts are frequently misapplied when: (1) devolution occurs without authority, (2) devolution of authority occurs, but it is devolved to the wrong people, and (3) socially naïve standard organizational models are employed. In instances where the FD has monopoly over rule formation, implementation and sanctioning, it is not likely to accede to demands for giving up control over forest land easily (Ghate, 2009). When poor implementation of governance reforms is coupled with mismatched interests between local, regional and national authorities, decentralization is likely to produce disappointing results (Ribot, 2003). It would be disadvantageous and unproductive to put experiments with decentralization ahead of capacity building to those who will be granted new powers and responsibilities.

Disadvantaged communities that have borne the costs of centralized forest governance and have experienced the injustices accompanied by an insecure tenure regime do not acquire the capacities to administer a forest at once. Particularly in poverty-stricken rural areas, the limited human and social (therefore political) power can severely hinder the transition towards a more sustainable form of governance. As the daily reality for disadvantaged communities is necessarily to focus on survival, finding the capacity to even consider a shift of priorities can be daunting. For many communities, their lack of access to information, often a product of isolation, provides a further significant barrier.

Centralized control and management responsibilities imply central systems of knowledge production, which limits access to other important stakeholders. This creates and perpetuates a gap between scientific and traditional knowledge, eliciting both poor decision-making and governance of natural resources. When capital development for central political gain is placed ahead of holistic approaches to social development, many communities doubt that governments have the intention or capacity to guarantee fairness and protect social values in the community for the long term. The relationship between procedural justice and participation in decision-making is, therefore, iterative: citizens are more likely to engage if they perceive the administrative process to be fair. They will be more likely to view the participating organizations as legitimate and subsequently be satisfied with the outcomes. It is important to bear in mind that capital development is simply a means to achieve social development. The question then becomes whether or not local communities trust the information and intentions of actors from outside of the community who bring new ideas and programs to help the community.

### **Sustainable Livelihoods**

Global efforts to alleviate poverty and conserve the resources that sustain the human population have often had conflicting outcomes. The establishment of protected areas leads to foreclosure of future land use options, which may carry with them severe economic opportunity costs, forced eviction of local people, the exacerbation of poverty, and the contravention of legal and human rights (Adams, 2004). On the other hand, conversion of land use for the pursuit of particular livelihood activities like large-scale logging, plantations of cash crops, and mining have stark implications for ecosystem health. Benefits to one focus of development frequently have costs for another. While the establishment of protected areas may increase natural capital, economic activity increases financial capital; the distribution of such livelihood benefits (who gets what) is inherently embedded in the operational institutional arrangements. While land classification is largely a technical undertaking, land tenure is a highly political process. Institutions need to strike a balance to support increases to all livelihood assets, so as to increase the probability that a given livelihood is developing sustainably.

In order for a livelihood to be characterized as sustainable, it must address people's capacities to generate and maintain their means of living (income generating activities), adequately recover from stress and shocks (such as droughts), and provide adequate opportunities for the next generation by maintaining a healthy resource base (Chambers & Conway, 1992; Nguyen et al., 2006). These capacities are conceptualized from a livelihoods perspective to be the access to certain assets. The sustainable livelihoods framework consists of four distinct classes of "capital" (natural, financial, human and social), which represent the basic material and social assets needed to pursue different livelihood strategies (Table 2). Livelihood studies have often failed to fully acknowledge the structural barriers and power relations that influence the options available to the poor (Angelsen et al., 2011; Baumann & Sinha, 2001). To address this shortcoming, social capital is treated as socio-political capital. Moreover, treating the institutional arrangements as an outcome variable and unit of analysis will minimize the limitations

associated with this recurrent trend. A sustainable livelihood may encompass different definitions depending on the context in which it exists.

**Table 1. Livelihood Capitals (Bauman & Sinha, 2001; Scoones, 1998)**

Capital	Explanation
Human	Skills, education, knowledge, health, and physical capabilities
Financial	Liquid assets (cash, credit/debit, savings)
Natural	Natural resource stocks and environmental services
Physical	Infrastructure and access to social services, tangible household assets
Socio-Political	Networks, social relations, affiliations, associations Ability to build up power and deploy it in the face of countervailing and illicit exercises of power by elites

Sustainable livelihoods theory emphasizes on the role of both activities and mediating factors (i.e. institutions and other forms of social organization) that determine the extent of access to the aforementioned livelihood capitals. The amalgamation of livelihood capitals creates a profile of assets available to the community or household to mobilize into particular strategies for survival and well-being (Scoones, 1998; Ellis 2000 cited in Mersha & van Laerhoven, 2015). The resources on which livelihood strategies depend and the institutions that mediate access to resources are dynamic. Therefore, institutional analysis should be given a place in livelihood analyses. Given the role that both governmental and non-governmental organizations have on crafting local institutions amidst tenure reforms, external actors in theory have a critical role in *mediating* access to livelihood assets (type II activity). That being said, if poverty focused development activities undertaken by external actors are to be considered successful, they should be people-centered, responsive and participatory, polycentric/multilevel, conducted in public-private partnership, sustainable, and dynamic so as to adapt to changing conditions (Ashley & Carney, 1999; Krantz, 2001).

### Activities (Outputs)

Motivations, goals and approaches (inputs) are typically directly related to the development and execution of specific intervention activities (outputs). Failure in securing tenure results less from people’s lack of institutionally grounded claims to a resource, and more from their incapacity to pursue these claims effectively against powerful actors (Arnold, 2001). The way in which external actors can assist the achievement of these goals falls under three broad categories: (1) capacity building, (2) technical support/administration and (3) advocacy.

Capacity building is the strengthening of existing skills or the creation of new skills, competencies and abilities, to enable vulnerable communities to overcome their exclusion and their inability to achieve development goals. Capacity building activities are characterized by training programs designed to supplement human capital and resource management skills, to provide information to increase villager awareness of external political and economic forces, and to establish key contacts to expand the community’s network for more embedded and polycentric CBFM. Capacity building requires institutional change and direct provision of livelihood assets (particularly human, social and political capital). Activities that fall under the administration/technical support and advocacy categories are usually more focused on achieving livelihood improvements through institutional change. Administration and technical support can initiate the necessary institutional changes for the community to become more actively involved in formal decision-making and forest management. This type of activity assumes that there was no community-based forestry institution in place prior to the intervention. Advocacy at higher policy levels implies policy and institutional changes through the mechanisms of awareness and learning of local level issues, and challenging oppressive and powerful authorities.

In their work, Barnes & van Laerhoven (2014b) empirically provide an account of the activities frequently employed by external actors who work in community forest development in an Indian context. Table 1 illustrates the findings of their research, and how these findings are relevant to the research presented in this thesis. Specifically, Table 1 describes the activities that external actors undertake corresponding to Bebbington et al.’s (2002) classification, and the associated hypothetical manipulability of the enabling conditions and/or hindering factors for achieving sustainability in the commons, in terms of both institutional and livelihood factors. The hypothetical manipulability assumes a positive and well-intended approach to development, and does not take into account unintended outcomes, or spillover from one

outcome to another. There are variables however; for example the extent of increases in natural capital that might be expected to follow an information session regarding biodiversity and indigenous crops would depend on how well the information was understood and applied by the target group. It is therefore crucial to analyze both the inputs and the implementation process of an activity, each of which plays a key role in determining the nature of the outcomes that will follow.

**Table 2. Most Frequently Mentioned External Actor Activities for Supporting CBFM and Sustainable Livelihoods (adapted from Barnes & van Laerhoven, 2014b; Bebbington et al., 2002)**

Category	Activity	Type of activity (I or II)	Hypothetical direct manipulability of enabling conditions and/or hindering factors for achieving sustainability in the commons (livelihoods and institutional factors)
<b>Capacity Building</b>	Supporting communities in liaising with officials (i.e. by helping them understand the language of officials)	I/II	Increasing social capital (new social connections, expanded network, less conflict)
	Actively discussing and advising on institutional aspects with the committees (e.g. participation and transparency)	II	Increasing community participation in decision-making Increasing transparency in decision-making and distribution of benefits Encouragement of design principles
	Arranging exposure visits	II	Inspiration and new ideas based on successes in other localities
	Training lower level officials	I/II	Increasing human capital (acquiring new knowledge and skills)
	Support of youth or interest development	I/II	Encouraging homogeneity of interests and involvement of youth
	Provide technical forest trainings	I	Increasing human capital (acquiring new knowledge and skills) Increasing financial capital (via increasing efficiency of harvest)
	Conducting research	I/II	Increasing human capital (via sharing findings) Better informing decisions Influencing resolutions and orders of higher level policy-makers
	General capacity building, but not formalized training (e.g. discussing why a problem comes up)	I/II	Increasing social capital (via conflict resolution and strengthening relationships) Increasing
	Supporting federations of communities	I/II	Increasing social capital (new relationships) Increasing political capital (building up human resources)
	Stimulating community reflection	II	Enhancing adaptive governing capacity
	Training local volunteers	I	Increasing human capital (acquiring new knowledge and skills)
	Writing a book with youth	I	Increasing human capital (acquiring new knowledge and skills)
	Conducting information sessions (e.g. on biodiversity and indigenous crops)	I	Increasing human capital (acquiring new knowledge and skills) Increasing natural capital
	Supplying communities with implements	I	Increasing physical capital (assets)
	<b>Technical Support (Administration)</b>	Mapping out forest boundaries	II
Guiding through land claims		II	Establishing clearly defined boundaries and ownership
Aligning forest governance plans with official plans and boundaries		II	Increased embeddedness of decentralized governance, pushing towards polycentricism
Setting up a community investment fund		II	More autonomy in the allocation of funds from forest-related income
Assistance in marketing/awareness raising of local sale of forest products		I	Increasing financial capital (appealing to new markets for increased income) Increasing physical capital (market access)
Mobilizing the media		II	Rationing attention to the community and development failures and/or successes
<b>Advocacy</b>		Lobbying at the district, state or national level	II
	Active in NGO network	II	Representing community interests to sway higher level policy change through coalition building
	Supporting in court claims	II	Establishing clear ownership Representing community interests at higher policy level

## Motivations, Approaches and Goals (Inputs)

The claim to “localness” is one of the most significant bases from which NGOs assert their legitimacy (Forbes, 1999). NGOs enjoy the flexibility, to adapt design programs that are evidently not working or require further assistance. Government agencies are more bound to rigid processes confined by traditions and rules (Marschall, 2002). Grassroots experience by NGOs allows them to assert their claims about the local communities in which they are active with a degree of apparent authenticity. Forbes (1999) puts forward the idea, which she says is behind the surge of NGOs in developing countries, that NGOs are more cost-effective than governments in providing basic social services, are better able to reach the poor, and are key players in the democratization process. She states that a lack of empirical evidence allows NGOs to exaggerate these claims, which she states are more typically motivated by the beliefs and values of the NGOs rather than on actual monitoring and assessment of their accomplishments.

External actors make a conscious choice when they choose to intervene in community development affairs. Ribot (2008) writes that through the choice of local partners, the external actor lends credence to new and/or existing authorities, which can result in either the reinforcement or the transformation the local institutional landscape. This choice to intervene can be explained by the dichotomy between social exchange theory and the empathy altruism hypothesis. Proponents of social exchange theory (see

Emerson, 1976) argue that people will only help others when the benefits exceed the costs in doing so. Social exchange theory takes an *egoist* perspective on human nature – that one's own welfare is the end in itself. Conversely, the empathy altruism hypothesis (see Baston & Shaw, 1991; Lishner & Stocks, n.d.) holds that compassion and empathy towards another's hardship can lead to altruism, where the welfare of the aid-recipient is the end in itself, irrespective of the distribution of benefits and costs. This choice has considerable ramifications for strengthening existing power relations, or shifting power balances. An example of the former is the World Bank's decision to select the state FD as the implementing agency for the CFM forestry project that it funded in India, in 2002. This further solidified the power of the forest department as they were tasked with the responsibility of fund allocation. The project has received substantial criticism for failing to empower the community by devolving decision-making powers, and by misallocating funds (Griffiths, 2006).

Consolidated networks of mutually reinforcing institutions are difficult to shift once established, even under changing regimes; therefore, they may have a profound proclivity to persist. The theory of historical institutionalism asserts that long-run institutional changes are path dependent. Economic and political pressures are often counterbalanced by historically fortified institutional inertia, which is fuelled by perverse incentives experienced by incumbent power holders to maintain institutional arrangements from which they receive benefits, regardless of the externalized costs to other users. Such approaches embrace the political complexities, and realize the link between the authorship and distributional outcomes of institutional reforms, to which contestation and power struggles play a decisive role. Those with substantial resources and the ability to mobilize them will prevail in negotiations. In short, a fundamental problem perpetuates this state of affairs: forest dwellers tend to lack the political power necessary to counteract the forcible appropriation of the land and resources on which they depend (Beukeboom et al., 2010). Rights lack meaning and utility unless they are accompanied by the power to enforce them. This is the predominant vision held by development agencies, which present themselves to improve the political, economic and environmental situation for forest-dwellers. This lack of political power of local communities as a result of external institutional activities, can serve as a critical motivation for external actor interventions to come about.

As a result of varying socio-political contexts, and motivations, external actors do not take a universal approach to their work. Barnes & van Laerhoven (2014b) define four dynamic and flexible types of external actor approaches to institutional development, which have been found to vary depending on the stage at which the intervention is in its life cycle (Figure 3). The approach is subjective in the case that institutions were established prior to the intervention (exogenous), and objective when the external actor plays a more active role in designing local institutions (endogenous). Institutional crafting is characterized by situations in which the potential for institutional change is predominantly determined by the stimulation of an environment of community agency (the ability to act with freedom and make choices) that can in turn reinforce or change social structures (Sahay & Walsham, 1997). It is therefore a more collaborative process. The community is a fundamental part of envisioning the state of the new or reconfigured institution by the process of reflective-dialogues with the external actor. Institutional design, on the other hand, is characterized by the reconfiguration or the formation of new social organization that has been solely stimulated and envisioned by the external actor (Alexander, 2005). Institutional change is an exhaustive undertaking that involves transforming the arrangement of networks that comprise the established formal or informal constraints on human behaviour. The classification highlights the dynamic and diverse institutional settings in which external actors operate, and correspondingly determine their course of action. The diversity witnessed in approaches and motivations implies an assortment of development activities, and different methods of implementation and execution, which ultimately can result in variable outcomes.



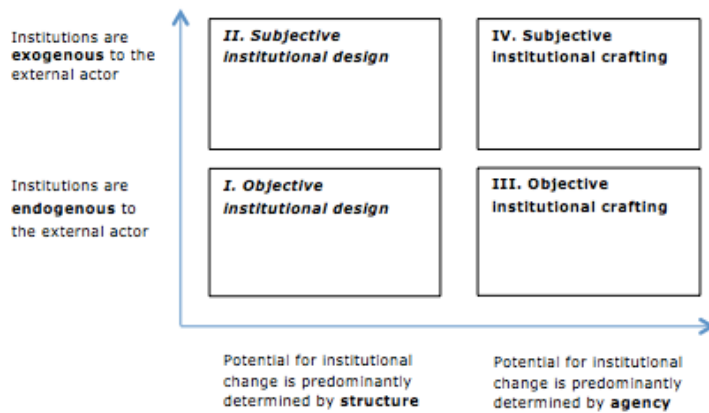


Figure 3. Archetypal Perspectives of External Actor Approaches to Institutional Change (Barnes & van Laerhoven, 2014b)

### Synthesizing Concepts: Theoretical Framework

There is a dynamic interplay between the motivations and approaches to supporting efforts of institutional reform undertaken by external actors to increase the likelihood of sustainable forest development. (Figure 4). Taking the vicious cycle denoted by the *status quo* path of centralized bureaucratic control over forest resources as a starting point, institutional inertia is generated by the network of mutually reinforcing and unsustainable arrangements, which benefit powerful incumbents at the cost of local communities. This inertia creates (state of the art) conditions of insecure tenure, a politicized and arbitrary rule of law concerning forest governance (which has dire consequences for local communities with limited political power) and thereby legitimizes a supporting external actor to intervene. The motivations and the approaches (inputs) operationalized by the external actor determine the course of action. Two types of outputs may ensue: either direct provision of assets (for example, by providing agricultural implements), which directly affects community livelihoods, or local institutional change (for example, by informing communities of consensus decision making through training sessions and site visits), which has more indirect (via the nature of collective decisions to take action to exploit and/or safeguard resources) implications for the community livelihood assets. Whether or not the intervention causes positive or negative outcomes, either a more sustainable, or less sustainable path will be realized. A virtuous cycle is characterized by community self-sufficiency, while a vicious cycle is characterized by perpetuating dependence on external support.

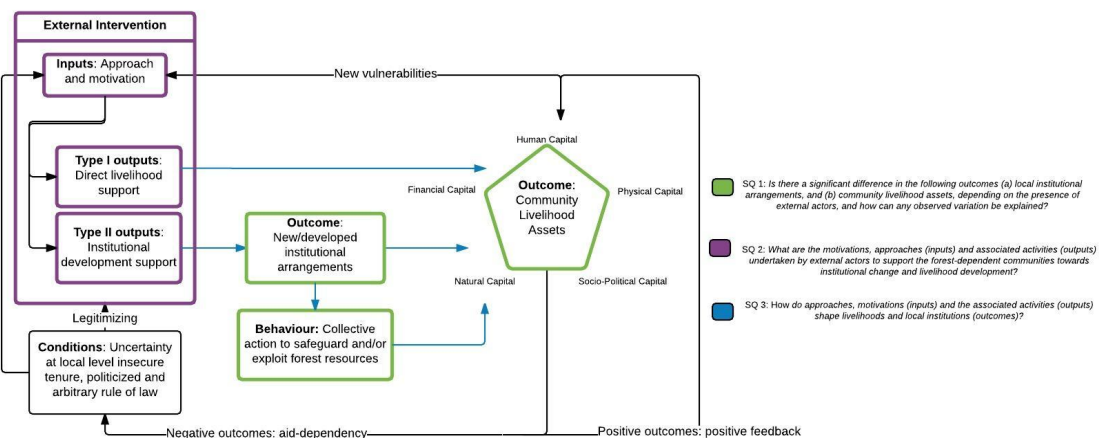


Figure 4. Theoretical Framework

The research questions explore the interactions between the phenomena described by the theoretical framework to answer the overarching research question. The comparison of community livelihood assets and the sustainable nature of local institutional arrangements that mediate their access, between the

control and treatment village, will provide further insight into the relative impact and importance of external actors in the pursuit of CBFM to secure better livelihoods and answer the first subquestion (green). The exploration of the motivations, approaches, and associated activities undertaken by external actors to support the forest dependent communities towards institutional change and livelihood development will answer the second sub-question (purple). An analysis of the goals and intended outcomes of the activities, will allow for speculation as to the ways in which the inputs and outputs respectively shape outcomes and answer the second question (blue). The answers to the last two sub-questions will help in explaining any observed variation in outcomes.

## Summary

There is no consensus in the literature as to whether or not external interventions have a tangible positive impact on sustainable forest development for tribal communities. Some authors (Bebbington, 2004; Forbes, 1999; Mohan, 2001; Moyo, 2009; Shabaz, 2010; Shah, 2010) claim that external actors have a predominantly negative impact on the communities in which they work, while others (Andersson, 2012; Barnes & van Laerhoven, 2013; Bawa et al., 2006; Roy 1995; Springate-Baginski & Blaikie, 2007) claim that external actors have a predominantly positive impact, however, they are unclear of the extent to which the support yields sustainable outcomes. Other authors explicitly recognize that there is variability (Barsimantov, 2009). It is suggested that this is due to the variability in motivations, approaches and activities that have been observed and explored by Barnes & van Laerhoven (2014a), and Barsimantov (2009). Additionally, the ways in which external actor interventions in this context can influence community livelihoods are depicted by Bebbington et al.'s (2002) framework, which describes a distinct typology between activities: institutional change and direct provision of livelihood assets. The external socio-political context also plays a critical role. Inertia established by networks of mutually reinforcing unsustainable political and economic institutions and interactions implies a degree of path dependency. It is suggested that the extent to which sustainable outcomes follow a critical juncture (conceptualized as an external intervention), will determine the extent to which a more sustainable path of interactions (virtuous or vicious cycle) will be realized (Kant & Berry, 1999; Barsimantov, 2009). Exploring the interplay between inputs, outputs and outcomes of external interventions, while considering the external socio-political context, will attempt to provide an explanation for why there are variable claims to the successes of external interventions, and will additionally provide empirical verification to what extent and in what ways external actor interventions contribute to sustainable forest development. The impact of an external intervention is not directly measurable, however, observable and measurable variables can provide some indication of the nature of their outcomes. The assessment criteria will be operationalized into measurable indicators in the following section.

## Chapter 3: Methods

India was selected for the case study for two reasons: the abundance of tribal forest dwellers living in abject poverty, and the presence of external actors working on forest development since the recent implementation of FRA. India's forests are particularly sensitive to the implications of deforestation. Specifically, their ecosystem services are vital for both environmental resilience and subsistence for tribal forest dwellers. By convention, livelihood analyses tend to focus their attention on the assets component of livelihoods, rather than a combination of the status of livelihood assets, and the interactions and institutions that mediate access to them. The objective of this case study is to investigate the interplay between the units of analysis (inputs, outputs, outcomes and exogenous socio-political factors), in order to draw conclusions regarding the expected impacts of external interventions on the components of sustainable forest development.

In order to isolate the independent variable (the presence of an external forestry intervention), this research employed a comparative case study through which a series of indicators representing the processes that lead to changes in the dependent variables (community livelihood assets) were analysed. The case study approach was ideal due to the scarcity of local level data, and the potential lessons to be learned from that level. There is no reason to suppose that case study research follows a divergent logic of inquiry relative to experimental research: "case-based research may be fruitfully reconceptualised according to the logic of the lab experiment" (Gerring & McDermott, 2007, p.689). Accordingly, the study was conducted by means of a quasi field experiment designed to determine what outcomes ensue as a result of external actor intervention. This involved an attempt to establish the cause of any observed differences in the dependent variables (institutions and livelihood assets) and the components of the intervention. The research follows the methodological framework described in Figure 5.

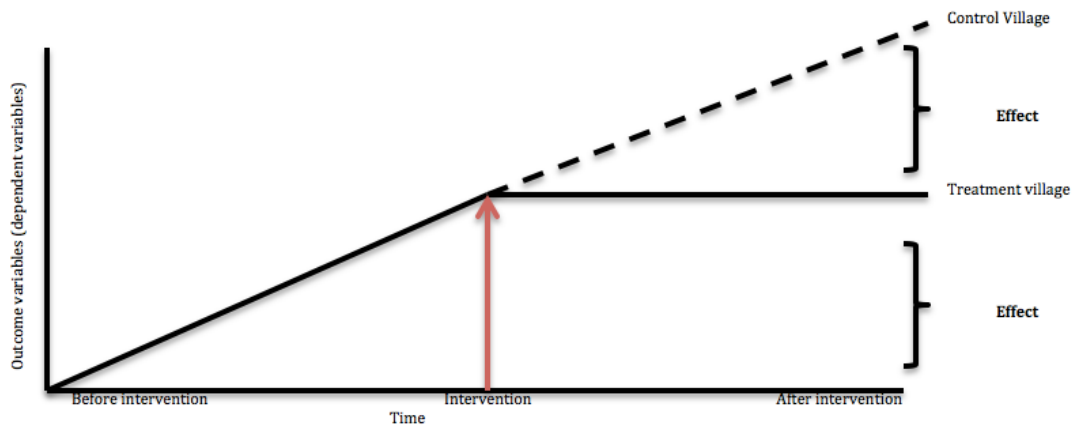


Figure 5. Methodological Framework (adapted from Rossi, 2004)

Two villages were selected to represent a control and a treatment group. Both a government agency and a local CBO had been actively working with the treatment village on forestry issues. The control group was believed to be similar to the experimental group in every way except in the receipt of the treatment. The control group arguably provided a basis for an estimate of what probably would have occurred in the treatment village if the external actor interventions had not been present (counterfactual estimate). In this way the causal relationships in the path to local-level forest development (improvements in livelihood assets and local institutional arrangements) may be critically analyzed in isolation. Causality is expressed in terms of likelihood that the intervention caused direct/indirect institutional change, and improvements in community livelihoods. It is assumed that the observed outcomes would not have happened in the absence of the action. For each case two sets of indicators were used.

## Assessment Criteria: Sustainable Forest Development (Outcomes)

Given the literature review, some conditions are present under which positive livelihood outcomes can be expected to follow institutional development:

- (1) collaborative and motivational spirit among actors (e.g. leadership, normative congruency, trust),
- (2) democratic design principles to foster strong, relevant and adaptive institutions,
- (3) a balanced enhancement of access to crucial livelihood assets

These conditions, are influenced by the pre-existing social and institutional context and are at times frustrated by various hindering factors including:

- (1) self-interested incumbents who wish to retain their power at any cost,
- (2) low human and social capital (and therefore negligible political power) in forest-dependent communities, and
- (3) the sheer neglect of local knowledge and social dynamics internal to the community.

The extent to which external actor interventions can be considered an impetus to sustainable forest development, or, conversely, a hindrance, will be examined to determine whether or not, and how, the intervention(s) can overcome the barriers and lead to consolidation of the enabling conditions.

The variables used to assist in the above analysis follow Bebbington et al.'s (2002) distinction of the ways in which external actors contribute to community development, which, drawing from other bodies of literature, are interpreted to be: sustainable institutional reform, characterized by design principles, and a balance in livelihood outcomes (i.e. all aspects of the framework are considered to be enhanced due to the intervention). The independent variable is then the external actor intervention (an amalgam of inputs and outputs, which shape and are shaped by the external socio-political context). The dependent variables are the components of the local institutional architecture, and the status of community livelihoods.

Table 3 provides an overview of the indicators used to compare the operational institutional arrangements in each case. The indicators were largely derived from the design principles for local CPR governing institutions described by Ostrom (1990), and subsequently operationalized by taking inspiration from other scholars in the field of CPR management (Agrawal, 2001; Center for International Forestry Research, 1999; Mrosek et al., 2006; Pagdee et al., 2006).

**Table 3. Institutional Arrangements: Indicators**

Category	Indicator(s)/enabling conditions for sustainable forest development	Operationalization(s)	Source of data	Supporting references
<b>Rules</b>	Clear boundaries	Formal boundaries are established and demarcated (Y/N)	Interviews with key informants, policy documents	Agrawal, 2001; Ostrom, 1990; Pagdee et al., 2006
	Clear ownership to use and manage resources	Formal and legal ownership established as per FRA rules (Y/N)	Policy documents	Center for International Forestry Research, 1999; Mrosek et al., 2006; Ostrom, 1990; Pagdee et al., 2006
		Perception of ownership	Interviews with villagers	
	Perceived correspondence with local needs and conditions (i.e. match restrictions on harvests to regeneration of resources)	Local rules in use and perception those rules (too strict, too lax, appropriate)	Interviews with villagers	Ostrom, 1990; Pagdee et al., 2006
	Graduated Sanctions	Penalties augment gradually (Y/N)	Interviews with villagers	Agrawal, 2001; Ostrom, 1990; Pagdee et al., 2006
	Compliance with rules in use	Infractions	Interviews with villagers	Ostrom, 1990; Pagdee et al., 2006;
	Awareness and understanding of rules in use	User groups are aware of FRA (Y/N) Interpretation of rules in use	Interviews with villagers	Ostrom, 1990; Pagdee et al., 2006
	Fair allocation of benefits from common resources	Allocation of funds for collective forest harvesting (% community receiving funds, distribution)	Policy documents	Ostrom, 1990; Pagdee et al., 2006
	Monitoring and accountability of monitoring	Monitoring mechanism(s) in place (Y/N)	Interviews with villagers	Ostrom, 1990; Pagdee et al., 2006
		Community members are responsible for monitoring (Y/N)	Interviews with villagers	

<b>Participation</b>	Level of participation among the community in decision-making	Presence of CFR committee (Y/N), number of meetings, average number of participants per meeting	Interviews with villagers and committee members	Ostrom, 1990; Pagdee et al., 2006
	Autonomy	Community user group is responsible for making rules (Y/N)	Interviews with villagers	Ostrom, 1990; Pagdee et al., 2006

Table 4 provides an overview of the sustainable livelihood indicators that were used to compare observed outcomes between the villages. Only indicators that were suspected to have a direct relationship with forestry were taken into account. Indicators for health and education levels were considered too distally related to enable robust inferences, when considering exogenous factors such as other programs that are targeted directly at health and education improvements. Access to information regarding the perceived changes in the stock of forest resources gives an indication of the conditions of the resource. The stock of the resource itself is arguably the most important element in the context of a resource-dependent community's ability to sustain natural capital in order to provide the increased financial returns, which should result in improved individual and community welfare. New institutional arrangements require skill development and knowledge (human capital) to sustain them; this is vital to the sustainability of the mediators of access to livelihood assets. Social capital was measured by the perception of conflict among villagers regarding inter-village, intra-village and outside organizations. Conflict can lead to more trust and reciprocity among the community, each of which is of critical importance to the achievement of sustainable and socially equitable natural resource management by institutional design and to encourage the sublimation of individual preferences in favour of a united pursuit of the common interest. On the other hand, the presence of conflict is sometimes indicative of premature policy change, or the contestation of institutional configurations and behaviour that are serving certain people poorly (van Laerhoven & Andersson, 2013). By developing vertical connections with higher-level policy actors (i.e. government agencies, NGOs) the community acquires the opportunity to develop new relationships with them and the actors within their network. This follows the network theory of transitivity, which holds that a friend of a friend is a friend (Granovetter, 1983). Physical infrastructure, as it gives an indication of the level of community development, is important to consider, as well as the financial benefits that the community is receiving from the forest, which may provide the means to invest in local infrastructural development initiatives.

**Table 4. Sustainable Livelihood Indicators**

Livelihood asset	Indicator(s)	Operationalization(s)	Source of data	Supporting references
<b>Natural</b>	Resource stock and use Access to forest resources is fair and secure	Perceived changes in forest (anecdotal)	Interviews with villagers	Das, 2012; Mrosek et al., 2006
<b>Human</b>	Skill development, knowledge of CBFM	Community participation in training programs Perception of training program	Participatory observation Interviews with program participants	Armitage, 2005
<b>Socio-political</b>	Conflict Vertical connections	Perceived conflict within village, between villages, and with external actors Connections and new relationships developing with key actors	Interviews with villagers Interviews with villagers, observations	Ashley & Hussein, 2000 Carney, n.d.
<b>Physical</b>	Infrastructure	Access to markets Access to education Access to healthcare (and preferences) Latrine Water facility	Interviews with villagers, observations, focus group meetings	Das, 2012; Hoon et al., 1997
<b>Financial</b>	Benefits from forest sector	Annual harvest Benefits (=Annual harvest x market price) Benefits/harvested unit (=Gross benefits/Gross harvest)	Interviews with villagers	Das, 2012

The interrelationship between institutional arrangements and the status of the community's access to livelihood assets becomes clear once again. For example, if conflict is perceived to be low, it could be explained by the presence of a conflict resolution mechanism. By the same token, low levels of conflict imply that a community is relatively socially cohesive, and people trust one another, fulfilling a key foundational principle of reciprocity and trust. Fair and secure access to natural capital, once granted in

the form of a tenure agreement, can provide an incentive to further invest in institutions that mediate exploitation of natural resources from the forest.

The outputs were analyzed in an exploratory manner to derive the main activities that in which each external actor had conducted in the past, and those that they are currently executing. This component was derived from interviews with the actors regarding their work in the treatment village. The motivations and goals (inputs) were defined by exploratory research informed by interviews. The approaches (inputs) were inferred according to the institutional change archetypes described by Barnes & van Laerhoven (2014b) and Bebbington et al. (2002). Inescapably, some of the activities did not strictly fall under one distinct category. In that case, the activity was denoted as one where multiple approaches were possible. Moreover, some activities could be characterized as objective or subjective, without necessarily an institutional change component of crafting or design, while others could be characterized as design or crafting activities, but with fluid subjectivity or objectivity.

## Data Collection

Data were collected over a period of three months, from a variety of primary and secondary sources to obtain the indicator scores and to generate causal insights from the observed scenario in both villages. The languages that were spoken in the region are the tribal language of Koya, the state language of Telugu, and the national languages of Hindi and English. The language barrier was significant for village visits, and required interviewing through an interpreter. A household survey (see Appendix II) was conducted in both villages, in addition to a series of focus group meetings (see Appendix III), and semi-structured interviews with key informants (see Appendix I). In order to acquire sufficient representation from the village and to minimize selection bias, the survey, and the interviews that were conducted with villagers, were selected by a random sampling technique with proportional representation. Questions were distributed to 25% of households, following Angelsen et al.'s (2011) rule of thumb for selecting a representative sample for interviewing. Clan affiliation, sex and age were varied as much as was possible. The following steps were taken in each preliminary site visit to determine village interviewees:

**Step 1:** *Meet with village patel, or a knowledgeable elder who was able to provide the number of households in the village, a breakdown of the clans present in the village, and how many households comprised each clan.*

**Step 2:** *Calculate 25% of households to obtain the number of households to interview.*

**Step 3:** *Take the number of households in each clan and divide by the total number of households to obtain the individual clan's portioned representation of the population as a decimal.*

**Step 4:** *Take the portion of the population represented by each clan and multiply by the total number of households to obtain the number of households/clan that needed to be interviewed.*

**Step 5:** *From the list of households, blindly point to one at a time with a pen until the representative sample was selected.*

Villagers were interviewed for data requirements primarily regarding the outcomes, which is logical considering that they are the intended beneficiaries of a forestry intervention. The following data was specifically collected during interviews:

1. regarding institutional arrangements: awareness of the FRA, participation in forest decision-making, perception of operational rules in use, and
2. regarding livelihood assets: Income derived from NTFPs (including bamboo), perceived forest-related conflict, anecdotes regarding forest conditions, public infrastructure, CBFM related knowledge, and connections to key actors.

Other key informants who were interviewed include: forest department officials (FBO, FRO and DFO), and members of governmental and non-governmental organizations involved in supporting communities post-FRA. External actors were interviewed with regard to:

- (1) the basis of their motivations for working in the treatment community,
- (2) the reasons they decided to work in the particular village,

- (3) what they were currently doing to support the communities and why,
- (4) how they executed their activities,
- (5) their role in rule-making and
- (6) the intended outcomes of their activities.

The resulting data informed the development of impact models for the treatment group, in addition to the possible mechanisms through which variation can be explained between the respective statuses of the indicators between villages. Interview questions were crafted based on the data requirements, and supplemented by the questions listed in the IFRI Field Manual (Ostrom, 2011).

Focus group discussions with community members were also used as a data collection tool. This was used to gauge community members' access to physical livelihood capital assets (schools, water facilities, health centers, administrative centers) in addition to seasonal income-generating livelihood activities, with a particular emphasis on the forest-produce used for subsistence and commercial needs.

Relevant policy documents such as CFR claims, FD working plans, community records of transport and sale of forest products, and newspaper articles were also collected to understand the context in which the local forests are governed, how this has changed (or failed to change), and why certain governance trends are observed. Baseline data was not possible to obtain for the treatment village, aside from phrasing reflective questions among villagers as to whether or not they feel changes in their village have been positive, if there has been any change over time, and the extent to which the changes are attributable to the support that they received.

Participatory observation methods were also used. This involved attending national and state-level consultations regarding the FRA, observing *gram sabha* meetings, accompanying the FD on plantation visits, and observing training programs and awareness meetings conducted by the local CBO. Living for nearly four months in a neighbouring village that was easily accessible by autorickshaw and bus to the study sites, facilitated regular contact with local residents and enabled the observation of, and participation in, the many facets of rural life in India on a daily basis.

## Data Analysis

By reviewing the transcribed interviews with the key informants, it was possible to analyze the data both qualitatively and quantitatively. The analysis followed the principles of Yin's (1981) explanatory case study and Gerring's (2007) pathway case. The pathway case serves to elucidate causal mechanisms. We have reason to presume that the causal factor of interest (external interventions) is strongly associated with the outcomes (new institutional arrangements and access to livelihood assets) holding all other factors constant. Given the elements and arguments put forth by leading scholars in this field of study, we certainly have reason to believe that external interventions have a relationship with both institutional change and changing access to livelihood assets, however, a more fruitful empirical analysis is required in order to understand how, and to what extent.

The analysis began by compiling interview data to give an accurate rendition of the facts for each case in terms of local institutions, and access to livelihood assets. Through investigating change over time within the treatment village, it was possible to make conclusions based on the explanation that appeared most congruent with the variation of the dependent variables in space and time, much like the detective work model proposed by the explanatory case study (Yin, 1981). Qualitative data was analyzed through the establishment of the outcome, output and input components of the intervention to effectively categorize the information. Outcomes were compared cross case, to provide the with/without component of the analysis. The outputs and inputs were explored solely for the treatment group. The change over time component was given by scoring any observed changes since the intervention as + (progression), - (regression), and 0 (no change) (Table 5).



**Table 5. Operationalization of Change Variables**

Symbol	Operationalization
+	Progression
-	Regression
0/→	No change over time
↓	Decrease
↑	Increase

The outcomes were analyzed in line with the changes we could expect to see given Bebbington’s (2002) typology of external actors, and as defined by the assessment criteria. This analysis would lend itself to answer the first research subquestion regarding the variation in outcomes depending on the presence of external interventions. The evaluation of the community’s access to livelihood assets was derived from the individual interviews, and subsequently aggregating the variables for analysis at the community level. Working backwards, the relationships between the specific activities (outputs) that were employed, and how they were implemented (inputs) to ultimately lead to, or explain the outcomes was analyzed through the derivation of impact models, the components of which were informed by the interviews with the external actors. Impact models effectively captured the relationships between the components of the intervention and the outcomes and the behavioural change, and crucial intermediate steps that succeeded the intervention.

The qualitative analysis of the livelihood indicators was completed by coding data into categories of access to natural, physical, social, political and human capital for community-level analysis. Since institutions mediate the access, the interrelationships within the livelihood assets and between the observed institutional arrangements were made explicit.

Quantitative analysis was executed for the financial capital indicators, which was derived from individual responses regarding: the harvest season (when they go to collect the product), how frequently they harvest during the season, the amount that they collect, how many people go to collect that amount, where they go to sell the product, and the market price / barter value. When a barter value was only given, or the good was only used for subsistence, the average market value was calculated and applied. It was the most comparable value associated with the good, and gives an estimate of the maximum benefits that can be derived from the forest to serve each community. The numbers were calculated as follows:

$$(1) \text{ Harvest/respondent/product} = \text{Season duration (weeks)} * \text{Frequency of harvest (times/week)} * \text{Quantity of harvest (kg/bunch/culm)}$$

$$(2) \text{ Benefit/respondent/product} = \text{Harvest/respondent/product} * \text{Market price/unit} (\bar{x})$$

$$(3) \text{ Gross harvest} = (\text{Sum of harvest/respondent/product}) / (n)^2 * P^3$$

a. For the treatment = Same as above + total harvest from bamboo

$$(4) \text{ Gross benefit} = (\text{Sum of benefit/respondent/product}) / n * P$$

a. For the treatment = Same as above + total returns from bamboo harvest

$$(5) \text{ Benefits/unit harvested} = \text{Gross benefit/Gross harvest}$$

## Chapter 4: Study Area

“Regardless of how resource policies at the regional, national or international levels might change, the ultimate effects are filtered through local context” (Andersson, 2006, p. 27). Fieldwork was conducted over the course of two months in the Bhadrachalam South Forest Division at 17.7500° N, 81.4000° E (Figure 6). The region experiences three seasons, winter from December-January, summer from March-June, and rainy from July-November. Temperatures frequently exceed 50°C in May. Local villagers reported that it is getting hotter every summer. They saw the cause of rising temperatures to be

<sup>2</sup> n = number of respondents in sample

<sup>3</sup> P = population in village

attributable to the rapid rate of deforestation and the rise of polluting industries in the pursuit of the pro-development political agenda.

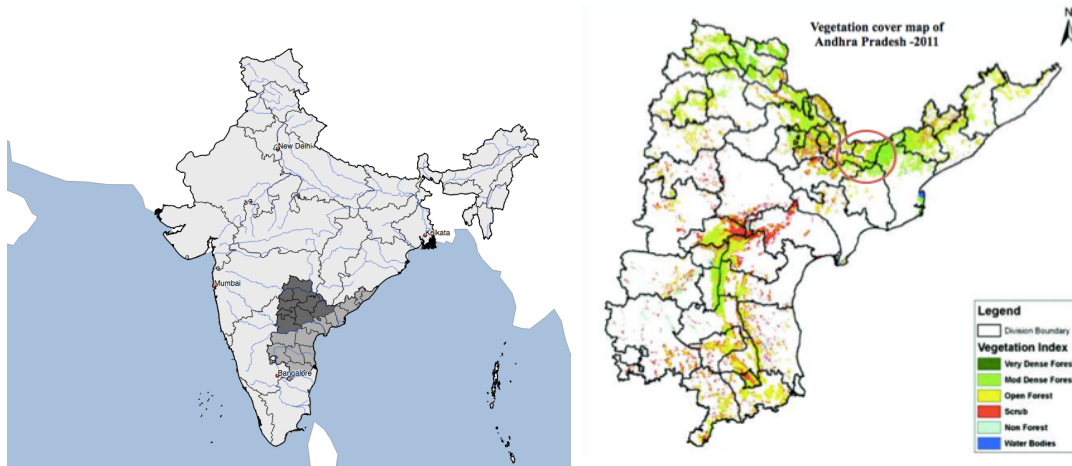


Figure 6. Map of Study Area (adapted from APFD, 2013).

India's forest distribution is uneven; five of India's 29 states contain approximately 50% of its forest. Andhra Pradesh was selected because of the prevalence of deforestation, and the presence of a minority tribal forest dwelling population, which accounts for 6.99% of the total population. In the past eight decades, the forest cover in Andhra Pradesh has reportedly declined by an alarming 49% (Watham et al., 2014; Ministry of Tribal Affairs, 2014). This statistic does not take into consideration the severe ecosystem damage accompanied by the clearing for agroforestry activities. Such a drastic decline in forest cover, as well as ecosystem health is attributable to numerous factors including:

- (1) the diversion of forest-land for the raising of fast-growing income-generating monocrop tree plantations (eucalyptus, bamboo and teak) which are primarily owned and maintained by the state forest department or private companies,
- (2) clearing for agricultural land (both shifting and settled cultivation are practiced by tribals in this region),
- (3) mining (specifically bauxite and coal),
- (4) centralized power over resources leading to incompatible management strategies and rule enforcement by central forest bureaucrats, and
- (5) population growth in and migration to fringe areas, thus increasing subsistence and commercial demand on forest resources.

The *mandal* in which the study was conducted was formerly located in the Khammam district (now Telangana state). Since the bifurcation of Andhra Pradesh, the *mandal* is one of seven that has been transferred to the administration in the East Godavri District in Andhra Pradesh. The Bhadrachalam forest division was selected due to its prevalence of tribal communities, which comprise approximately 75% of population in the region (Bhadrachalam South Division Working Plan, n.d.). The division was selected due to the abundance of forest-dependent villages with a dominant tribal population, and its presence of external actors currently involved supporting certain villages in community-based forestry initiatives. Specifically, a local Community-Based Organization (CBO) and the Integrated Tribal Development Agency (ITDA) have focused their efforts to support numerous villages in the endeavour of democratizing forest governance, and providing communities with new institutional capacities to level the uneven political playing field. Lastly, this *mandal* is to be submerged by the incoming Polavaram Dam. The project is criticized for violating both the Panchayat Extension to Scheduled Areas (PESA) and the FRA, and will effectively submerge 2271 hectares of forest area, and displace over two *lakh* (20 000) tribal forest dwellers (Gujja, 2006; Dileep, 2014). The looming threat to forest-dependent communities of this multi-purpose irrigation project in the region makes the empowerment of forest-dependent communities to assert their rights in the political arena, and to safeguard the valuable resources on which their livelihoods depend, a pressing matter.

## The Koyas

The Koyas are just one of 33 ST groups that can be found in Andhra Pradesh, and are the predominant tribal group in the Bhadrachalam South Division. The area also contains a GuttiKoya population - migrants fleeing the *Naxalite* insurgency in Chhattisgarh - and Kondareddies residing on the hills. Both study villages are predominantly Koya. Koyas have their own language (Koya), religion and have a rich history of unique cultural practices. They frequently organize and celebrate festivals collectively, some of which are designated to the beginning of NTFP seasons (e.g. the mahua flower). They practice shifting as well as permanent settled cultivation. Their primary source of employment is agriculture. Approximately one third of their habitat is reserve forest administered by the state Forest Department, although this is currently changing (Tyler, 1996). Many Koyas suffered from the alienation of their lands not only from restricted access by the FD, but also from members of more economically and politically powerful populations – even land assigned to Koyas back in the 1940s and 50s fell into the hands of non-tribal newcomers, many of whom came from high Hindu castes (Madakam, 2013).

## Case Selection

Following the quasi field experiment research design, a “control” and a “treatment” village were selected. Cases were selected with the intention of isolating the independent variable of analysis: the presence of an external agent supporting the community in forest-related issues. It was important to control for socio-economic variables, so that exogenous influences would be minimized. Following Ostrom’s (2007) Institutional Analysis and Development (IAD) framework, the biophysical conditions and the attributes of the community were held relatively constant, so that the rules in use (i.e. institutional arrangements) and subsequent livelihood outcomes could be critically analyzed. The external socio-political context was also controlled for, because of the dynamic interplay between the context and the inputs and outcomes of external interventions. The two selected villages were thoroughly investigated to acquire an understanding of the livelihood implications attributable to external support in the communities. Both the control and treatment villages were granted CFR title deeds as per the state’s implementation of the act. The treatment village has had a long history of external involvement by civil society organizations, and the ITDA. As mentioned in the literature review, there is a dynamic relationship between the external socio-political environment and the input and outcome components of the intervention. An oppressive governance regime fuelled by an institutional architecture that thrives off of power imbalances and creates a substantial amount of suffering can spark motivations and the way in which an intervention must be approached (inputs). Additionally, the outcomes associated with certain external actor activities on both institutional reform and community livelihoods can influence the external socio-political landscape, which can in turn shape inputs for subsequent work. It is for this reason that two villages that are not only in the same state, but also in close proximity to one another and experiencing the same socio-political externalities were selected. Following the randomized field experiment research design, the two villages could be assumed to be similar enough in every way aside from the receipt of an external intervention. Exogenous factors are assumed to be minimized, but not eliminated, and will be examined in detail in the discussion chapter.

**Table 6. Village Profiles**

Attribute	Control Village	Treatment Village
<b>Number of Households</b>	54	36
<b>Number of Households Interviewed</b>	11	8
<b>Population</b>	221	136
<b>Languages spoken</b>	Koya, Telugu	Koya, Telugu
<b>Literacy</b>	64.06%	50.5%
<b>Houses</b>	Thatched hut, some diorama (government provided concrete slab)	100% Thatched huts
<b>Average individual landholding (not including community forest)</b>	6.38 acres/ household	4.79 acres/ household
<b>% Landless</b>	14.3%	21.7%
<b>Crops grown</b>	Paddy, jowar, sesame, dhal	Paddy, jowar, sesame, dhal
<b>(Former) classification of forest</b>	Reserve/VSS	VSS
<b>Forest type</b>	Dry deciduous Mix of plantations (teak, bamboo, eucalyptus) and natural forest	Dry deciduous Mix of plantations (bamboo, eucalyptus) and natural forest
<b>Forest size</b>	500 ha	700 ha
<b>Per capita forest area</b>	2.26 ha/person	5.15ha/person
<b>Forest dependence</b>	Firewood for cooking and heating <sup>4</sup> , house building, NTFP collection for subsistence and sale, cattle grazing, hunting	Firewood for cooking and heating, house building, NTFP collection for subsistence and sale, cattle grazing, hunting
<b>Sources of income</b>	Seasonal employment: agriculture, NTFP collection, NREGS	Seasonal employment: agriculture, NTFP collection, NREGS

<sup>4</sup> During winter season

## Chapter 5: Background Context

### A Historical Perspective of the Progression of National Forest Policy in India

“History plays a crucial role in analyzing the current state of affairs of forest governance, because the origin of many of the current institutions governing India’s forests can be traced back to the British colonial period. Not only is colonial forestry the oldest legacy of legislative forest governance in India, it also reveals an interesting pattern in the way forest-dependent people and forests were categorized in the development discourse.” (Bose, 2012, p.31).

Control over forestland and forest resources has recently become a subject of heated debate in India, and has been one of the central fault lines of Indian politics since the inception of FRA and its inevitable contradictions with existing institutions and other policies, particularly the Land Acquisition Act (Gopalakrishnan, 2012). The Planning Commission estimates that the forests contribute 500 *crore* rupees, or 7.3 billion euros to the national economy (Sethi, 2014). Consequently, India has witnessed an extensive history of conflict surrounding national forest policy, which repeatedly marginalized user groups who depend on the use of forest products to support their livelihood (Figure 7).

In the colonial period, forest laws had encroached upon dweller’s rights, and governance was centralized for pursuing the economic interests of the colonial elites. In attempts to protect their traditional rights to the forestland, communities repeatedly mobilized against the custodian management system. In the post-colonial era, agitation within fringe communities has persisted, as institutions and central state policies continued to deprive dwellers of their basic subsistence (Sarker, 2011). Formal and legal appropriation and enclosure of forests subjected forest dependent communities to harsh penalties, because the central government did not recognize or record their rights (Bhullar, 2008). Ultimately, centralized state control over the forest failed to conserve resources and to substantially contribute to the well-being of local populations (Bhattacharya et. al, 2010; Vemuri, 2008). Against the backdrop of ineffective centralized bureaucratic control, the guidelines of JFM evolved in the 1990s to embrace the philosophy of forest conservation and livelihood improvement through cooperation between the state and civil society (Bhattacharya et al, 2010). Most recently, the Ministry of Tribal Affairs (MoTA) developed the Forest Rights Act, with the objective of securing property rights to local forest dwellers (Sarker, 2011). Through formally bestowing forest land and resource rights to the *gram sabha*, the Forest Rights Act marked the beginning of an attempt to rectify the historical injustices experienced by the people who depend on the forest to sustain their livelihoods. However, it is impractical to expect that a century of disenfranchisement and oppression of tribal forest dwellers by the state could be reversed at the stroke of a legislative pen, particularly when faced with the institutional inertia generated by the state forest department (a colonial construct), and its allies built on such deprivations (Reddy et al, 2010a; Kant & Berry, 1999).

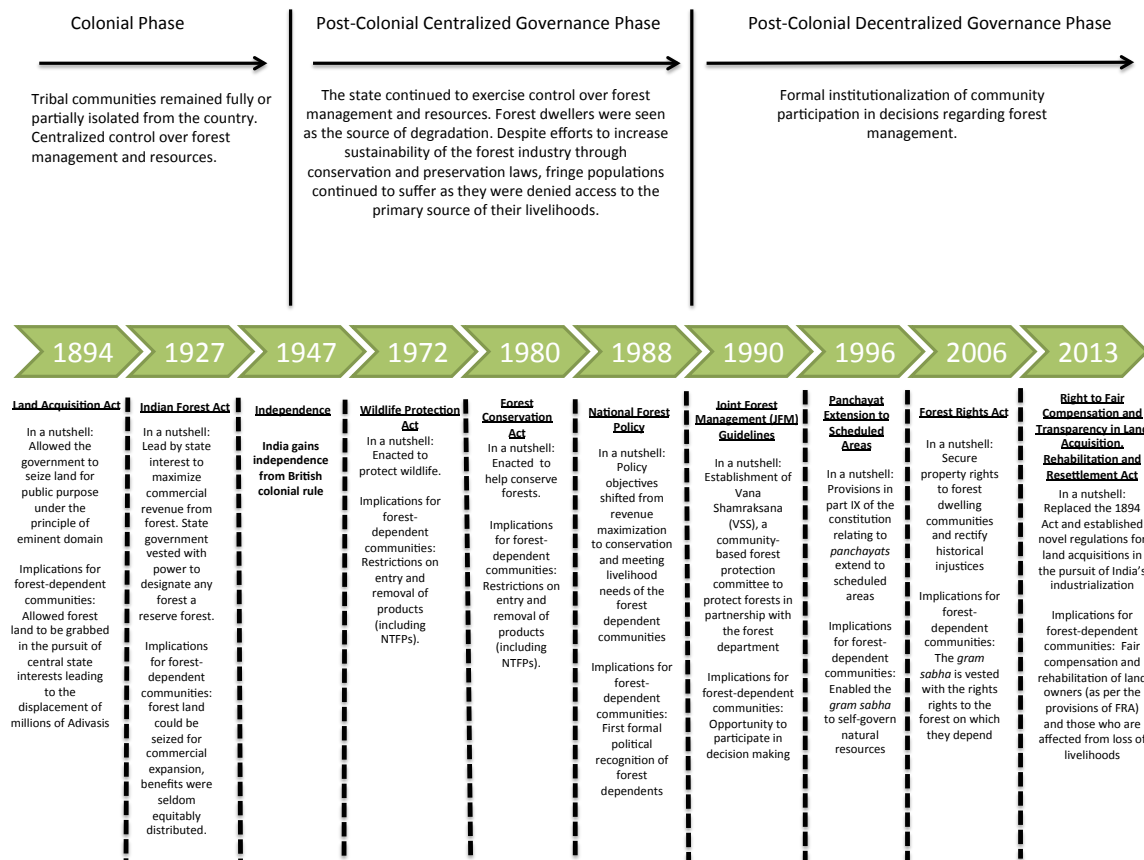


Figure 7. Progression of National Forest Policy (derived from Bhullar, 2008; Sarker, 2011; Vasundhara, n.d.)

Social forestry programmes have received criticism from scholars and practitioners alike, primarily for the reason that their ideological foundation is frequently undermined by political realities experienced at various stages of implementation. In theory, social forestry provides an avenue for regenerating the forests by bridging the gap between local and scientific knowledge to make more informed decisions and achieve democratic and sustainable forest governance. In practice, such programs are misinterpreted, wrongfully implemented and/or usurped by incumbent bureaucrats who stand to benefit from the *status quo* network of mutually reinforcing institutions. These schemes often function with a disregard for local knowledges, forcing communities to participate (if they had the opportunity to participate at all) in ways that undermine sustainable practice (Kesharwani, 2014).

To date, approximately 2,992,853 hectares is officially recognized as belonging to forest-dwelling communities. While at first glance this appears to be a milestone, it only represents 9% of what is officially recorded as forest land used by tribal communities. As a result, “forest dwellers continue to live in hopes that the government will abide by its own law” (Bijoy, 25<sup>th</sup> April, 2015).

### FRA Implementation in Andhra Pradesh

To further complicate things, the implementation of a central statute in India encounters significant hurdles at the state level, as each state has a different institutional structure as a result of diverse local conditions. Table 7 provides a summary of key events in the FRA implementation in the Indian state of Andhra Pradesh. Complications arise with representation, interpretation, miscommunication, misunderstandings, and in the case of Andhra, all of the above, stimulated by an illegal implementation. In Andhra Pradesh, VSS areas were reassigned as Community Forest Rights (CFR) areas, without the consultation or awareness of the forest-dwellers. Without the awareness of the villagers, combined with inactivity of VSS institutions, in most cases this reassignment allowed the power to be usurped by the forest administration. This is a violation of the parameters of FRA, as VSSs are not incorporated in the

definition of the terms “forest dwelling Scheduled Tribes” or “Other Traditional Forest Dwelling Communities”, as stated in sections 2(c) and 2(o) of FRA.

**Table 7. Key events in State-wise Forest Policy (Springate-Baginski & Blaikie, 2007; Reddy et al., 2010b)**

Year	Policy/Event	Details/Implications
1856	Establishment of the Forest Department	The British created a separate department for the management of forests
1867	Establishment of <i>Nizam</i> State Forest Department (Telangana)	The <i>Nizam</i> government established a Forest Department to manage valuable teak forests
1882	Madras Forest Act	Under its legal framework, most of the forests in AP were declared state property
1925	Forest <i>Panchayats</i>	First attempt to devolve forest management responsibilities to local communities in Coastal Andhra and Rayalaseema
1945	Hyderabad Forest Act	Forests reserved as state property
1967	Andhra Pradesh Forest Act	Modelled on the 1882 Madras Forest Act. Provides a legal and administrative framework for forest management
1971	AP Minor Forest Produce (Regulation of Trade Act)	Nationalized important NTFPs, declared the trade a state monopoly
1980s	Social Forestry Programme	Effort to improve forest cover by encouraging extensive tree plantations, mainly to satisfy industrial demand
1992	Joint Forest Management (with the support of the World Bank)	Under the framework of the 1988 Forest Policy, the AP government issued the JFM scheme seeking the involvement of village communities in forest management. This was to be conducted by a partnership between the FD and the <i>gram sabha</i> . Over 8000 VSS institutions were constituted under this scheme
2002	Community Forest Management (CFM)	JFM modified to CFM in order to give more autonomy to the communities in forest management
2007	World Bank Funding stops	Many VSS institutions become inactive
2008	a. Government of AP issues FRA implementation plan b. Government of AP misinterprets “community”	Allowed AP Forest Department JFM Committees to usurp community forest resource rights under FRA in many forest dependent communities

Issues in the implementation of the FRA are not unique to Andhra Pradesh. Findings from a workshop concerning issues and challenges hosted by Vasundhara and Kalpraviksh (2014) outline some of the common critical issues in the management and governance of community forest resources under the FRA, nationwide and propose some ways forward:

- (1) Awareness and capacity building: a lack of awareness on the provisions relating to CFR management and implementation have led to serious confusion on the state and local level, leading to distortions and subversions of the process by the FD.
- (2) CFR mapping and incorporation of rights into government records: this legal requirement has not been initiated in most places, with the exception of in a few pockets, leading to confusion regarding the jurisdiction of the *gram sabha*.
- (3) Conflicting institutions and policies: inconsistencies between sets of constitutional rules allow opponents of the policy to leverage outcomes according to their interests. FD working plan operations and leases granted to private companies in CFR areas have caused conflict with legal rights. In some instances, cases have been filed against *gram sabhas* for harvesting resources within their CFR area and excluding others from entering under the provisions of the FRA. There is presently no mechanism to safeguard the authorities and rights of the *gram sabha* from such violations.
- (4) Transferring of transit permits for timber (i.e. bamboo) and NTFPs: when *gram sabhas* have issued requests for transit permits on their own they have not been accepted by the authorities. The regulations need to be modified.

Given that so many issues are inherent to the implementation of this highly politically contested act, there is substantial room for interventions by those who would support its functioning, as well as by those who stand to lose from the implementation of the statute.

### Important Local Actors

This section will discuss the characteristics, and perceptions of what/who are believed to be key actors in the CBFM endeavour sought by the successful implementation of FRA: the *adivasis* (beneficiaries of institutional change), constituents of government development agencies (facilitators), NGOs and CBOs



(facilitators), and state monopolies (proponents for the *status quo*). The premise of the FRA legal framework is that through the decentralization of tenure and management responsibilities, the historical injustice done onto forest-dwellers will be rectified. Constituents of government development agencies have an interest in the successful implementation of this statute, due to the socio-economic development of historically disadvantaged communities that is theoretically affiliated with devolution of forest tenure, and the associated establishment of new, more democratic institutions for community empowerment and capacity building potential. NGOs and CBOs additionally assume a facilitating role because of their similar interests in socio-economic development of the communities in which they work, but also due to the perception that government efforts are insufficient. On the contrary, the proponents and beneficiaries of the *status quo* tenure regime such as the private mining companies, timber production and processing companies, and the para-statal NTFP buyer, Girijan Cooperatives Corporation (GCC) need to be considered and understood.

### **Adivasis (Beneficiaries)**

*"In the name of development, the tribals are consistently displaced from their traditional habitats and are deprived of their livelihoods"* (Reddy & Kumar, 2010, p.23). The population of Scheduled Tribes (STs) in India amounts to 104,281,034, which comprises 8.6 per cent of the total population (Ministry of Tribal Affairs, 2014). At the national level, STs constitute at least 55% of the persons displaced by development projects such as irrigation systems, hydroelectric projects, mining operations, power-generating units and mineral-based industries (Reddy & Kumar, 2010). The *adivasis'* minority status, in addition to their stark levels of poverty that coincide with their status in the social hierarchy, make them a key target for discriminatory human development initiatives. Maharatna (2013) notes that understanding India's development trajectory and the reasons for which its path has been relatively sluggish requires the recognition of history, culture, socio-cultural-religious norms and values which ultimately find their way into institutions. He regards this to be consequential of a long lasting and dominant influence of Brahminical and colonial lines of thinking and discourse. Despite affirmative efforts in education and a progression towards shifting principles, the social groups that were traditionally at the lowest rung of the social hierarchy (including *adivasis* and *dalits*) for the most part remain economically poorly off (Ministry of Tribal Affairs, 2014). Many tribal communities continue to be characterized by forest-based livelihoods, rudimentary agricultural technology, a stagnant or declining population, extremely low literacy, and a subsistence level of economy. Consequently, the proportion of poor among the STs is comparatively larger than the general population, as 49.6% of STs are living below the poverty line, compared to 12% of the total population (Ministry of Tribal Affairs, 2014).

Tribal communities (*adivasis*) and forests are entwined entities. *Adivasis* possess considerable local traditional ecological knowledge of the resources on which they depend. Such knowledge is not derived from rigorous science, but rather from practical experience and stories passed through generations, and is of value because it can inform forest policy and management in a context-specific manner. The integration of such knowledge in governance structures would lead to better decision-making at the local level to serve the needs of all user groups. This is only possible, however, if local communities are given the opportunity to integrate and share such knowledge in political processes. This becomes a challenging task in a changing environment with a historically centralized polity. It requires fundamentally changing the attitude of the incumbents who have been knowingly or unknowingly causing and benefiting from the deprivation experienced at the village level. Under such circumstances local knowledge may not receive the merit that it is due, and subsequently result in inadequately informed decisions.

CBFM under FRA provides a unique opportunity for forest dwellers to manage their forests as per their local needs, and reap the optimal benefits from the land on which they live and depend. As opposed to being labeled as encroachers in their traditional habitat, the new title as communal owners of the land will theoretically provide an incentive for more collective and cooperative behavior to benefit their community.

### **State Monopolies (Proponents for Status Quo)**

#### *NTFP Trade and Nationalized Commodities*

While NTFP collection and market development holds great potential for enhancing livelihood benefits derived from the forest, almost all of the important NTFPs are nationalized, meaning that they can only be

sold to government agencies at predetermined prices (Saxena, 1999). In Andhra Pradesh, GCC has monopoly rights over the procurement of NTFPs. GCC's mandate is to "keep tribals smiling". However, this is heavily contrasted with the observed reluctance of tribals to sell NTFPs to GCC at godowns, and the existence of a "black" market, free from state control for local NTFP trade. GCC has arguably not improved the prices that it pays collectors and due to its limited coverage of the state middlemen, it continues to play an exploitative role in NTFP trade, as there is no adequate mechanism to secure the interest of primary collectors (Saxena, 1999; Springate-Baginski et al., 2007). Economic theory contends that voluntary transactions will only take place if it works to the benefit of both parties. This exploitative role was additionally observed in the field, when the secretary of the local CBO explained that GCC had only been paying a collectors fee to the tribals. With ownership over the resource following the implementation of the FRA, the market would need to be configured in a manner to respect the true value of the resource. Government control over the marketing of important NTFPs does not ensure adequate returns to the poor, but state governments have vested interests to avert losing control of the market, given the revenues at stake (Kumar, 2000). Unfortunately, contrary to the claim made by the GCC agency, the benefits associated with state control frequently comes at the cost of the poor.

Commercially valuable NTFPs are typically exploited to the point of scarcity. In order to develop appropriate management techniques, policy makers need to understand the extractive practices, the opportunities for sustainability associated with different production and collection methods, and the socio-political constraints on collection and use (Bag et al., 2010). The rightful implementation of the FRA needs to be complimented with a sound NTFP policy, that not only engages with dependent communities, but also manifests principles of a sustainable natural resource-based economy.

#### *State Forest Department*

The state Forest Department is a constituent of the Ministry of Environment and Forests (MoEF). The department is 150 years old. Its colonial inception is evident through the examination of the organizational structure and culture, which remains very hierarchical, bureaucratic, and is guided by 10-year working plans, which are drafted by the District Forest Officer (DFO) to ensure a sustained yield of timber. Foresters inherited timber production and revenue generation as their main task from colonial policies, and the livelihood concerns of forest-dependent communities were given less of a priority (Springate-Baginski, 2007). The working plans guide the FD's activities, making continuous integration of new information and planning accordingly for adaptive governance very challenging. Individual responsibilities and job descriptions are shaped by the objectives of the forest department:

- (1) surveying and reserving the forest estate, clearly demarcating boundaries,
- (2) planning for forest management through the development of working plans to ensure a sustained yield of timber, implying the destruction of NTFP species which are considered to be inimical to the timber yield, and
- (3) actual field management – planting, maintenance, enumeration, inventory, thinning and harvesting, exclusive protection, and harvesting and marketing of forest products (Springate-Baginski & Blaikie, 2007).

Despite FD efforts at preserving biodiversity, and protecting forests, it appears that there is an internal conflict of interests with the plantation activities employed by the department for revenue generation. Fleischman (2014) sought to understand why India's forest departments focus their fieldwork on planting trees, despite its arguable futility.

While tree planting is a highly effective method to establish commercial tree plantations for wood production, and thus appears to an outsider to be a logical activity for foresters to engage in, it is an ineffective way of pursuing the goals of India's forest policies, which emphasize restoring the ecosystem services, particularly those related to watersheds, protecting biodiversity, and producing non-timber forest products on which the rural poor depend for their livelihoods (Fleischman, 2014, p.62).

While the FD has historically claimed its legitimacy as the steward of the forest land, the *status quo* system of forest governance that has been established and continues to thrive is simply put, a shibboleth that both degrades ecosystems and forest-dependent livelihoods.

“The main agencies causing damage to the forest are *podu* and encroachments, fire, grazing and illicit fellings” (Bhadrachalam South Division Working Plan, n.d., p. 4). Given this superficial conception of the nature of the deforestation and degradation problem, it is understandable why the forest department takes the position that the implementation of the FRA will lead to even more degradation of an already vulnerable forest ecosystem. There is an important place for forest department scientific knowledge to integrate into new institutional arrangements. What this problem definition effectively misses is that the spirit of the FRA is about the meaningful involvement of people who have a vested interest in the forest. It gives *adivasis* the opportunity for them to participate meaningfully in forest governance, as opposed to relying solely on a few environmentalists and the department. They have an array of knowledge of the forest that they use, and failing to involve them in this process will continue the cycle of degradation and deforestation experienced by this particular region of India. The source of the problem has a key role to play in the crafting of a solution.

The state forest department employs roughly 90,000 individuals, and therefore has a significant amount of representation in higher-level political institutions (Springate-Baginski & Blaikie, 2007). The forest department stands to lose roughly 3,325,392 hectares of forest land (Bijoy, 25<sup>th</sup> April, 2015) in the transfer of tenure over to fringe communities. Their knowledge has a key role to play in easing the transition of tenure, and assisting in consolidating the management skills required for effective conservation measures to be met with exploitation for livelihood purposes. Their conflict of interest, however, fuels their position against the implementation of the FRA. Their strong opposing position to the implementation of FRA has led to meddling, and stagnation, making it very difficult for vulnerable communities to receive the benefits that they are due.

“Because of the FRA, tribals are taking the forest land as if it is pieces of cake. It is a useless act,” the local FRO explained in an interview. He expressed that because of their illiteracy, lack of education, and survivalist nature they do not care for the future, their priority inherently lies in the short term.

“Although the tribes possessed few sustainable rights over the forest, they had from time immemorial enjoyed and abused an unrestricted freedom to fell, clear and burn whatever they chose; for political reasons, it was considered necessary to deal with them cautiously” (Bhadrachalam South Division Working Plan, n.d. p.80).

The FD has a ignorantly inaccurate perspective of the tribals, illustrated by some remarkably contradictory and *Bhraminical* discourse in the working plans:

“Like many other jungle tribes, they are simple, lazy, indolent and improvident. All are addicted to drink. They believe in *Davara* (ghost) rather than going to the hospital” (Bhadrachalam South Division Working Plan, p.81).

These excerpts make the stark polarization between the department and the views held by MoTA and human rights activists explicit. It is the essence of the conflicts that have been occurring between the *adivasis* and the FD for generations.

So long as the APFD holds that the dichotomy of forest protection and the clearing of natural forests for the raising of timber plantations is necessarily a forest department activity (from which only the forest department derives benefits, with the exception of a few places), its interests stand in fundamental contradiction with the provisions of the FRA. This is because of the many benefits that are at stake to them, as the tables turn under circumstances of conflicting land claims to characterize the department as the contemporary “encroachers”.

## **External Actors (Facilitators)**

### *Governmental Rural Development Agencies*

Agencies such as the constituents of the Ministry of Tribal Affairs (MoTA) and the Ministry of Rural Development both take a people focused approach to accelerating the socio-economic development in rural areas. The Ministry of Rural Development focuses on basic infrastructure projects in the sectors of health, education, drinking water, housing and roads. On the other hand, MoTA is relatively new, and was established in 1999 to mainstream the development interests of *adivasi* communities in an organized fashion. These agencies share the common vision for inclusive growth of vulnerable communities. ITDA,

and TRIFED, both constituents of the MoTA, see the development of forest governance and NTFP markets as a vehicle for achieving these goals.

#### *Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs)*

Forestry NGOs lie at the epicenter of people and forests. While rural development agencies are people focused, and the forest department is forest focused, NGOs have something substantial to bring to the table. “NGOs have gained credibility in the forestry sector mainly because of the unpopular and restrictive role of the FD” (Gate & Mehra, 2004, p.8). Amidst institutional reforms, NGOs frequently play a facilitating role in building new relationships and strengthening existing ones. Their flexibility and lack of rigid organizational structure governing their activities, combined with their knowledge and contacts at the grassroots levels can be essential to transitioning and transforming governance arrangements more efficiently. By bridging this gap, they contribute to the establishment of a more consolidated network of interests surrounding sustainable forestry (on which their mandate usually rests). On the other hand, affiliation can have implications for how activities are motivated and ultimately received by the target group. When NGOs are associated with political parties or lack integrity, their involvement may not be constructive and may generate conflicts (Kumar, 2000).

At some instances, the principle on which most NGOs operate (the lack of government services) causes some conflicts between governmental agencies. During the CFM programme in Andhra Pradesh, in an effort to reduce the role of NGOs and silence objections to FD behaviour, the state government of AP cut all financial assistance. Community extension workers, who were directly accountable to the FD, were appointed to supervise and guide VSS committees (Springate-Baginski & Blaikie, 2007). Most NGOs working in forestry recognize the people-forestry interface, and that joint benefits are tangible.

### Summary

Given the discussion above, the diversity of actors involved in the many facets of forestry in Andhra Pradesh is illustrative of an interesting, and collective action dilemma. The polar heterogeneity articulated in the interests of the relevant actors is not a unique phenomenon. Diverging interests, and actors behaving according to those interests can explain the political stagnation that seriously eclipses the ability for more sustainable forms of governance and subsequent collective action to emerge through the rightful implementation of the FRA. As Libecap (1989) accurately puts it:

“Past political agreements on property institutions create the framework for responding to new common pool losses, the identities of the agents for and opponents of change, their effectiveness in political bargaining, and the range of feasible alternatives” (Libecap 1989, p.116 cited in Kingdon & Caballero, 2006).

Institutional change is a political process. The situation analyzed in this report was fraught with barriers to institutional change, specifically, illegal implementation of the supporting legal framework, the attitude of the forest department towards the inclusion of local tribal populations in the realm of forest governance, and the community’s lack of awareness of constitutional rules that benefit them. This is a common finding of scholars who study policy change and institutions: since policy formation and implementation produce costs and benefits, and inevitably involve a disparate plurality of heterogeneous actors, some of whom will be winners. Others will be losers who will act to try to change the rules of the game (Riker, 1982; Scharpf, 1978). Forest policy has for a substantial portion of its history deemed the tribal populations the “losers”. The FRA came about in response to the concerns of activists regarding historical injustices to forest-dependant populations, largely stemming from state “ownership” of the forest resource. These injustices included conservation-induced displacement, and the imposition of fines for cutting trees to sustain their livelihood. The FRA was an effort to change the rules of the game, and to shift the disproportionate ratio of losers to beneficiaries under the *status quo* centralized governance regime. On the other hand, the policy and implicit institutional change enshrined in the FRA creates a new wave of losers: the very incumbents who benefited from the previous regime, and who therefore oppose the changes. According to Schattschneider (1960), politics are inherent to policy changes, and a discussion of politics lends itself to a discussion of political power. The pre-FRA institutional arrangements effectively created an uneven political playing field between foresters and village user-groups (Ribot & Larson, 2007). In the absence of disruption, the status quo of historically entrenched inefficient institutions will tend to persist. External actors are typically relied upon to act as catalysts for this necessary disruption to the scheme of things by assisting forest-dependent

communities in making the first steps toward the positive livelihood outcomes sought to be brought about by means of the institutional change mandated by the FRA.

## Chapter 6: Results

This chapter begins with a brief overview of the CBFM situation in each study village followed by the livelihood and institutional components of sustainable forest development for each study village, and the specific measurements, which comprise the actual results. The change over time component for the treatment village is given a score of positive, negative, no change (+/-/0). From the observed variation in the components of sustainable forest development, a search was made for explanations in the context of the activities undertaken by the external actor in the treatment group. Finally, it will be demonstrated how these activities have been motivated, approached and subsequently implemented, and connections to the outcomes through the derivation of impact models for each intervention will be explored.

In 2010, contrary to the provisions of the FRA, both villages were granted CFR title deeds to the VSS institution instead of to the *gram sabha*. These illegal transfers had ramifications for the way in which the forests were governed, utilized, and abused at the local level. In the treatment village, the local CBO had been involved in various activities to support the community since the inception of JFM. In February 2014 the ITDA came to assist the community.

### Components of Sustainable Forest Development (Outcomes)

#### *Livelihoods*

##### *Seasonal Livelihood Strategies*

Livelihood activities (Tables 8 & 9) vary depending on the season and the household: **(1) agriculture from June-January, (2) the government sponsored NREGS program provides 100 days of land development work from March-June, and (3) NTFP collection to provide both a commercial and subsistence safety net throughout the season.** A total of 27 NTFPs and 24 NTFPs were mentioned in interviews in the control village, and the treatment village, respectively.

Table 8. Seasonal Livelihood Activities (Control Village)

Winter			Summer				Rainy				
December	January	February	March	April	May	June	July	August	September	October	November
RED ANT (ALLI)											
BAMBOO (BONGU)											
PALM JUICE (THODDY)							PALM JUICE (THODDY)				
MYROBALAN (KARAKAYA)											
INDIAN GOOSEBERRY (OOSIR KAYA)											
KIRSMAT POTATO (KIRSMAT DUMPA)											
SAL LEAF (PAVVUR AKKI)											
HILL BROOMS (CHEEPUR)											
CURRY LEAF (BODDHUM)											
EBONY FRUIT (TUNIKI PANDU)											
THATCH (EETHAGADD)											
ERRKA FRUIT (ERRKA PANDU)											
JUJUBE/INDIAN DATE (REGUPANDU)											
MAHUA FLOWER (IKKI)											
			BEEDI LEAF (TUMIRI AKKI)								
			YELLOW FRUIT (PALE PANDU)								
			CHAROLI FRUIT (MORLU PANDU)								
			TOPSY GUM (BAKKAR)								
			CHAROLI NUTS (MURALI GINJA)								
			NEEM FRUIT (GHARANJU)								
						MAHUA SEED (GYARA)					
						NOSCA POTATO (NOSCA DUMPA)					
						KIKAL AKKU					
						BLUE FRUIT (GINI PANDI)					
						INDIAN SOAPBERRY (PUSUPANDI)					
						FOREST MUSHROOM (KOOKH)					
						BAMBOO SHOOTS (KARKH DUMPA)					
AGRICULTURE (JOWAR, SESAME, PADDY, DHAL)											
			NREGS								



Table 9. Seasonal Livelihood Activities (Treatment Village)

Winter			Summer				Rainy				
December	January	February	March	April	May	June	July	August	September	October	November
BAMBOO (BONGU)							BAMBOO (BONGU)				
PALM JUICE (THODDY)							PALM JUICE (THODDY)				
KIRSMAT POTATO (KIRSMAT DUMPA)										KIRSMAT POTATO (KIRSMAT DUMPA)	
NOSCA POTATO (NOSCA DUMPA)						NOSCA POTATO (NOSCA DUMPA)					
NUX VOMICA SEEDS (MUSHTIGINJA)											
HILL BROOMS (CHEEPUR)											
MYROBALAN (KARAKAYA)											
INDIAN GOOSEBERRY (OOSIRI)											
TENITE SEED (TENITE)											
JUJUBE/INDIAN DATE (REGUPANDU)											
TAMARIND (CHITAPANDU)											
MAHUA FLOWER (IKKI)											
EBONY FRUIT (TUNNIKI PANDU)											
ADDA LEAF (ADDA)											
CHAROLI FRUIT (MURALI PANDU)											
ERRKA FRUIT/SEED (ERRKA PANDI/PIKKA)											
MAHUA SEED (GYARA)											
CASHEW NUT (GIDIPIKKA)											
CHAROLI NUTS (MURALIGINJA)											
BEEDI LEAVES (TUMIR AKKI)											
FOREST MUSHROOM (KOOKH)											
BLUE FRUIT (GINI PANDI)											
TOPSI GUM (BAKKAR)									TOPSI GUM (BAKKAR)		
							BAMBOO SHOOTS (KARKH DUMPA)				
							AGRICULTURE (JOWAR, SESAME, PADDY, DHAL)				
			NREGS								

In the control village NTFPs are either sold at the weekly local market (*santa*), sold to GCC (in the case of gums and *myrobalan* seed), sold to the FD (in the case of the beedi leaf) kept for subsistence/cultural use (i.e. food, festivals), or bartered for rice in a village approximately 5km away in the neighbouring state of Chhattisgarh (Figures 8 & 9). In the treatment village, there is a slight increase in diverse market access. NTFPs can be sold at the roadside market at the junction between the dirt road leading up to the village and the main road towards the *mandal* headquarters, the weekly *santa*, GCC (in the case of cashews, and the *myrobalan* seed), and the FD (in the case of the beedi leaf). Slightly more of the collected NTFPs are sold in the control village, when compared to the treatment village. Bartering is a slightly more common strategy in the treatment village. Charoli nuts and fruits, and the *Errka* fruit are the most frequently bartered NTFPs in both villages.

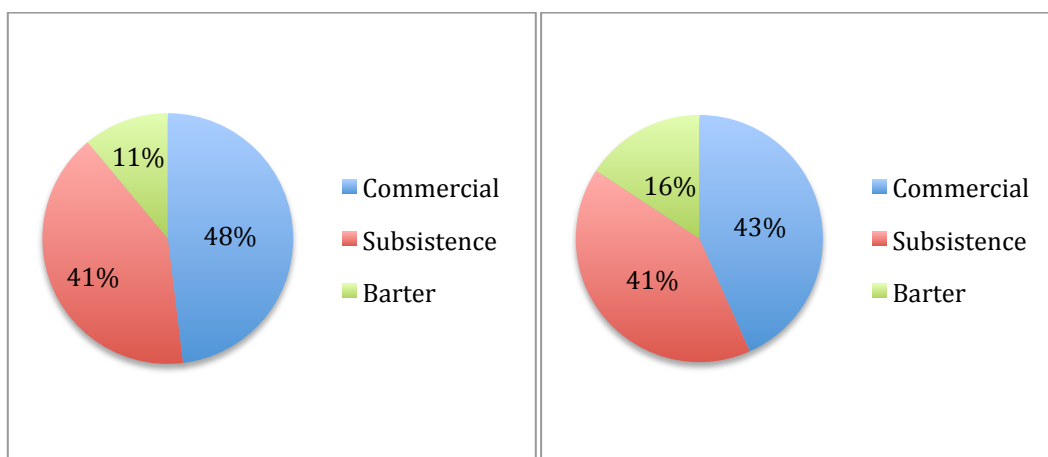


Figure 8. Breakdown of NTFP uses (Control Village) Figure 9. Breakdown of NTFP uses (Treatment Village)

There is some overlap with regards to the most mentioned (i.e. collected among villagers and assumed abundant) between villages. Interestingly, the most frequently mentioned NTFPs (assumed to be the most abundant and most collected among villagers) do not coincide with those NTFPs with the highest market value. A possible explanation for this observation could be simply market forces of supply and demand. The more abundant NTFPs may be collected simply to meet significant demand for them. It could also be that villagers are not aware of the untapped potential that their forest holds.

Table 10. Most Frequently Mentioned NTFPs (Control Village)

NTFP	% Respondents harvesting	End use	Value addition	Average market price (INR)	Average market price for value addition (INR)	Average barter value (NTFP : rice)
Beedi leaf	90.9%	Beedi cigarette (only selling raw material)	-	₹1/bunch (FD fixed rate)	-	-
Errka fruit/seed	90.9%	Fruit/seed	-	₹43.3/kg	-	1:3
Indian gooseberry	81.8%	Fruit, pickle	Pickle (for home use only)	₹10/kg	-	1:2
Ebony fruit	81.8%	Fruit	-	₹10/kg	-	-
Charoli nut/seed	72.7%	Nut/seed	-	₹48.75/kg	-	1:3

Table 11. Most Frequently Mentioned NTFPs (Treatment Village)

NTFP	% Respondents harvesting	End use	Value addition	Average market price (INR)	Average market price for value addition (INR)	Average barter value (NTFP : rice)
Indian Gooseberry	100%	Fruit	Trifala Powder	₹18.5/kg	₹25-30/kg	1:3
Myrobalan	87.5%	Medicinal: treat sore throat	Trifala Powder	₹8.7/kg	₹25-30/kg	-
Errka fruit/seed	87.5%	Fruit or seed	-	₹55/kg	-	1:1 (seed) 1:2 (fruit)
Charoli fruit/nut	87.5%	Fruit or nut	-	₹66.7/kg	-	1:3.5
Mahua flower	75%	Edible flower, alcohol	Distillation to make saara (alcohol)	₹18.9/kg	₹50/bottle	-

Table 12. Most Valuable (₹/unit at market) NTFPs (Control Village)

NTFP	% Respondents harvesting	End use	Value addition	Average market price (INR)	Average market price for value addition (INR)	Average barter value (NTFP : rice)
Topsi Gum	27%	Sale	-	₹276.66/kg	-	-
Charoli nut/seed	72.7%	Nut/seed	-	₹48.75/kg	-	1:3
Errka fruit/seed	90.9%	Fruit/seed	-	₹43.3/kg	-	1:3
Mahua flower	54.5%	Edible flower, alcohol	Distillation to make saara (alcohol)	₹25/kg	₹44/bottle	-
Bamboo	54.5%	Walls, doors, fencing, animal sheds	Walls, doors, fencing, animal sheds	-	₹200/peice	-

**Table 13. Most Valuable (₹/unit at market) NTFPs (Treatment Village)**

NTFP	% Respondents harvesting	End use	Value addition	Average market price (INR)	Average market price for value addition (INR)	Average barter value (NTFP : rice)
<b>Topsi Gum</b>	12.5%	Sale	-	₹323	-	-
<b>Cashew</b>	13%	Fruit or nut	-	₹100/kg	-	-
<b>Mahua oil</b>	12.5%	Oil	Oil	₹100/bottle	-	-
<b>Charoli nut/seed</b>	87.5%	Seed or nut	-	₹66.7/kg	-	1:3.5
<b>Bamboo</b>	42%	Sale	-	₹6.5/culm Amounted to a total of 26 lakh in 2014 harvest	-	-

### Socio-political Capital

There is some discrepancy in the results for the perception of conflict among control village respondents (Table 14). There was conflicting information between villagers and the CBO regarding internal conflict. A non-tribal came to this village and married a tribal woman. Then, he allegedly began assuming the role of middleman and exploiting the other villagers. At the time when he was VSS chairman, he was employed in contracting work. When the FD saw that trees were being cut, they established a role boundary. As the chairman, this villager claimed the land to be his own, and leased it to allow other non-tribals to cut trees in his name. Just 6 months ago, the area was cut to the base of the hill, with no benefit to the community. Therefore, it can be surmised that not only is this village experiencing internal conflict, but is also relatively unwilling to discuss the specific of such internal conflicts. This is perhaps due to the lack of access to low cost conflict-resolution through institutional means. Furthermore, it demonstrates that without the respect for constitutional rules, the consequences for the forest become even more appalling. Conflicts with the FD also remain prominent. Most villagers described their interactions with the FD to be negative. One villager expressed that the FD planted eucalyptus on his *patta* land, harvested it, and sold it, without his permission. The villager had to file a case against the forest department to ensure he got his entitled 50% of the shares.

**Table 14. Individual Responses for Perception of Forest-related Conflict (Control Village)**

Conflict within Village (↑/↓/→) <sup>5</sup>	Current status	Conflict between villages (↑/↓/→)	Current status	Conflict with outside organizations (↑/↓/→)	Current status
↓	Some conflict	→	Harmonious	→	Some conflict (with FD)
↓	Harmonious	→	Harmonious	↓	Some conflict (with FD)
↑	Some conflict	↑	Some conflict	↑	Some conflict (with FD)
→	Some conflict	↓	Harmonious	↓	Harmonious
→	Harmonious	→	Some conflict	↓	Some conflict (with FD)
→	Harmonious	→	Harmonious	↓	Harmonious
→	Harmonious	→	Harmonious	↑	Lots of conflict (with FD)
→	Harmonious	→	Harmonious	→	Some conflict (with FD)
→	Some conflict	→	Some conflict	→	Some conflict (with FD)

**26.1 % of respondents claim that overall forest-related conflict has been reduced in the past 5 years**

**56.5 % of respondents claim that overall forest-related conflict has remained relatively constant in the past 5 years**

**17.4% of respondents claim that overall forest-related conflict has increased in the past 5 years**

When the interviewees in the treatment village were asked the same question, the responses were collectively quite different from the stark lack of consensus among respondents in the control village. This could have something to do with the fact that regular meetings are now held explicitly to discuss forest matters. *“At the time when our VSS area was transferring to CFR area, there was much conflict. If the forest department saw us cutting trees to build our houses, there was a problem”*. Just a few years ago, a divergence of political interests caused the village to segregate into two groups, and internal conflict was relatively higher. One respondent notes: *“now things are good, the past is in the past”*. Most respondents noted that overall forest-related conflict had been reduced.

<sup>5</sup> Conflicting information

**Table 15. Individual Responses for Perception of Forest-related Conflict (Treatment Village)**

Conflict within village (↑/↓/→)	Current status	Conflict between villages (↑/↓/→)	Current status	Conflict with outside organizations (↑/↓/→)	Current status
→	Some conflict	↑	Lots of conflict	↓	Harmonious
↓	Harmonious	↓	Harmonious	→	Harmonious
↓	Harmonious	↓	Harmonious	→	Harmonious
↓	Harmonious	↓	Harmonious	→	Harmonious
↓	Harmonious	→	Some conflict	↓	Harmonious
↓	Harmonious	→	Harmonious	↓	Harmonious
↓	Harmonious	→	Harmonious	↓	Harmonious
→	Some conflict	→	Harmonious	↓	Harmonious

**58.3 % of respondents claim that overall forest-related conflict has been reduced in the past 5 years**  
**37.5 % of respondents claim that overall forest-related conflict has remained relatively constant in the past 5 years**  
**4.2 % of respondents claim that overall forest-related conflict has increased in the past 5 years**

The establishment of the CFR committee has given community level actors in the treatment village the opportunity to meaningfully participate in the network of forest governance. Specifically, networking opportunities have been created with the help of external organizations attending, organizing and chairing meetings, and inviting their partners. This has begun to **give a new dimension to forest work, one that involves multi-stakeholder collaboration: governance**. This is a new opportunity for the community, and it is unclear how it will pan out at this early stage, as the relationships are still in the midst of developing. **Because the control group has not been granted the opportunity to meaningfully participate in forest governance, they do not have the exposure to new organizations through which they can expand their network**. Furthermore, they lack the autonomy and thus the ability to effectively mobilize against illicit uses of power and authority.

#### *Human Capital*

**Technical skills are lacking for harvesting forest products sustainably in the control village. There is no organized effort to ensure regeneration of bamboo.** Bamboo is felled year round and is given no time to properly regenerate. Harvest should not be permitted from July-September to ensure regrowth (Syed, 1996) Additionally, villagers are cutting the bamboo leaving a v-shape (see Photograph 1), which can lead to accumulation of water leading in turn to fungal growth. This makes culms more prone to pest attacks, ultimately leading to early death (Syed, 1996). In order to prevent problems such as congestion and rotting clumps, culm felling needs to occur below the second node (Syed, 1996). A lack of knowledge regarding correct silviculture operations, in addition to the obscure incentives for employing such practices, are both possible explanations for this observed trend.



**Photograph 1. V-shaped Cut on Bamboo Culm**

The treatment village comparatively has more knowledge regarding CBFM (human capital) than the control. **Technical silviculture procedures are allegedly followed here, but there was a discrepancy noted when walking through the entirety of the forest that is used by the villagers.** While there are designated areas for the bamboo harvest, and those areas are tended, in the natural forest, bamboo is cut improperly. This could be evidence of encroachment by neighbouring villagers, who are not yet aware of the

customary boundary and the rights withheld by the treatment village. Otherwise, it could be due to negligence, or because the entire community does not possess the knowledge, but is inevitably going to cut bamboo for subsistence uses (house construction).

#### *Natural Capital*

**There is a general consensus in the control village that the number of trees has decreased in the past 5 years, and the distance they need to travel to the forest is increasing.** The resources on which the villagers depend for a safety net source of income, and for subsistence use, are therefore decreasing. There is a general recognition that population pressures are the main driver for this. As well, the lack of institutional constraints, which ensure the functioning as an open system, certainly does not help. One respondent noted that just one year ago she was collecting topsi gum, but stopped because the trees have died. Another respondent claimed approximately 100-150 of such trees have died. *Mutuginja* was also reported to have a declining stock. It is now very rarely found in the forest. Bamboo is cut as needed, or as desired for the sale of walls that surround the perimeter of the house (see Photograph 2), fencing, animal sheds, and doors with no designated season. *“Bamboo walls need to be constructed annually, with a growing population placing pressures on the forest for new houses to be built, a steady supply of bamboo will be a problem for future generations”*. Another respondent described the cutting of NTFP species, particularly the Indian gooseberry (which can also be collected by shaking the tree) as problematic: *“now there are only small trees left”*. This negligence could be explained by low human capital discussed in the previous section.



**Photograph 2. Typical Koya Home (Outside and Inside)**

Similarly, **there is a general consensus in the treatment village that the number of trees is on the decline.** In contrast to the control village, the treatment village has established a local institution to deal with such problems in a democratic manner. As a result, for the most part the interviewees expressed that there would be no problems in their forest for the future. At present, they do not have any rules on harvest, so whether or not they will mobilize their power to constrain use in a sustainable manner has yet to be seen. Not a single interviewee had reported unnecessary cutting NTFP fruit bearing trees, such as the Indian gooseberry tree. Only one respondent reported cutting branches for the collection of *nux vomica* seeds. They are clearly aware of the implications of cutting NTFP trees.

#### *Financial Capital*

It is important in natural resource subsistence economies that villagers are able to maximize the benefit obtained at minimal cost to the resource. Table 10 presents the results of the comparison between the control and treatment in the case of the operationalized indicators for financial capital. The treatment village harvests more units from the forest, and receives more benefits than the control. The most remarkable result, however, is the comparative benefits/unit harvested. **The treatment village is capitalizing more (by approximately ₹4/unit) on their forest resources, which is a positive change for**



the community's livelihoods. "The bamboo auction is a very good source of income for us" (see Photograph 3).

**Table 16. Gross Benefits from Forest Resource/Unit Harvested**

Village	Gross annual harvest	Gross annual benefits received from resource	Benefits/unit harvested	Change over time
Control	708074.95	5506486.19	7.78	0
Treatment	953210.12	10504861.45	11.02	+



**Photograph 3. Villagers Participating in Bamboo Lotting (ASHA, 2014)**

#### *Physical Capital*

In both villages, most public service facilities are easily reachable by bus or autorickshaw. The control village is well connected, as it is located directly off of the main road, while the treatment village is comparatively slightly more isolated, just off a dirt road that connects to the main road. In terms of medicine, people expressed preference for the medicine man if something minor, but otherwise their choice is the government hospital. They do not like the private hospitals due to the price.

In the treatment village, the only changes that were observed in terms of public infrastructure since the external CBFM interventions are that the village has now acquired a tap system and has planted trees along the road for increased aesthetic value. Because the village previously had only bohr well and communal hand pumps the change is considered to be positive. These changes were a direct result of the funds earned from the bamboo harvest; in other words, they are a result of the financial capital gains by the community. The community was able to host the auction in their village because they had obtained the transit permit.

Additionally, **the ITDA contributed 1.55 lakh rupees (155,000) to the solar powered tap system project, 6.55 lakh rupees (655,000) was contributed by the gram sabha.** Eight new taps were installed during the course of fieldwork. Healthcare access is expressed in preferences given during a focus group meeting. Options for school and access to administrative offices are comparable, and have not significantly changed in either village.

**Table 17. Physical Capital (Control Village)**

Irrigation	Administrative headquarters: Access	Healthcare: Access	Market: Access	# options for schools: average distance and cost (if applicable)	Roads	Water facility	Latrine
100% Rainfed	FD range office: 2km  ITDA head office: 65km	Government hospital: 2km  Clinic: 2km  Private hospital and better government hospital: 65km	Barter exchange: 7km  Local <i>santa</i> : 2km  GCC godown: 2km  Within village	1 <i>Angenwadi</i> : in village  2 Primary: in village, 2km  2 Upper primary: 2km, 25km  1 Intermediate: 2km  Nearest college: 65km	Main hamlet is directly off of the main road	Communal hand pumps (4)	Open defecation

**Table 18. Physical Capital (Treatment Village)**

Attribute(s)	Administrative headquarters: Access	Healthcare : access	Market: access	# Options for school: Access	Roads	Water facility	Irrigation	Latrine
		1. Medicine man ( <i>pujari</i> ): in village  2. Consult with health organization worker: in village  3. Clinic: 3km  4. Hospital: 95km	Barter exchange: 30km  Local <i>santa</i> : 25km  GCC godown: 25km  Oil mill: 25km  Bamboo auction: in village  Connected with TRIFED via CBO	1 <i>Angenwadi</i> : in village  1 Primary: in village  1 Upper primary: 1.5km  1 Intermediate: 30km ₹5000/year (incl. food and housing)  Nearest college: 90km	Reasonably well connected to main road by dirt road  Planting trees along road	Bohr well (1)  Communal hand pumps (2)  Communal tap system (8)	100% Rainfed	Open defecation
Change since interventions		0	+	0	+	+	0	0

**Summary: Community Livelihood Assets**

It is observed that the treatment group scores better on the livelihood indicators when compared to the control group (Table 19). Additionally, changes in the access to one livelihood asset generally have spillover effects on others. Some of the positive changes have occurred since the intervention, others may be a coincidence.



**Table 19. Community Livelihood Assets: Comparative Indicator Scores**

Livelihood Asset	Village	Indicator(s)	Score (+/-/0)	Change over time (+/-/0)
Natural	Control	Perception of forest condition changes	-	-
	Treatment		-	-
Financial	Control	Gross benefits received from forest resources	0	0
	Treatment		+	+
	Control	Benefits/unit harvested	0	0
	Treatment		+	+
Physical	Control	Water facility	0	0
	Treatment		+	+
	Control	Market access	0	0
	Treatment		+	+
Human	Control	Knowledge relevant to CBFM	-	0
	Treatment		+	+
Socio-Political	Control	New relationships, meaningful participation in governance	-	0
	Treatment		+	+
	Control	Forest-related conflicts	-	0
	Treatment		+	+

## Local Institutions

### Control Village

Unfortunately, the control village has experienced no change in local institutions that could improve sustainable CBFM since the implementation of FRA, and “historical injustices” are prevalent as conflicts of interest between the forest department and the village are rampant. The forest department has retained control over the reserve forest in which the village is located, and the VSS has been inactive for approximately 8 years. Notwithstanding that the forest is their key source of safety net livelihood, the villagers continue to be treated as “encroachers” by the forest department. During an interview with the local FRO, he stated frankly: *“The main problem we face in this range is encroachment”*. A villager complements this statement: *“even if we own the land, the forest department will file a case against us for cutting the trees that we use to build our houses”*.

The forest has formally demarcated administrative boundaries around the reserve forest. In setting these boundaries, however, the forest department has disregarded the fact that the villagers are using the forest for subsistence needs such as collecting NTFPs, timber products, and house materials, in addition to activities such as cattle grazing, and fishing. Furthermore, the sense of ownership among the community is mixed and unclear as illustrated from the results of the interviews conducted in the village:

Question: Who is the owner of the forest?

**Approximately 30 % of respondents stated that the FD was the owner of the forest that they are using**  
**Approximately 10 % of respondents stated that the FD was the owner, but they feel that it belongs to the village**

**Approximately 40 % of respondents stated that the village was the owner of the forest**  
**Approximately 20 % of respondents did not know the owner of the forest, but felt that it belonged to the village**

The CFR titles were granted to an institution that no longer exists in this village. Therefore, because no initiative has been taken to address this, institutional change failed. **Only one respondent was aware of the FRA**, but was neither able to describe its provisions, nor to demonstrate an understanding of the significance of its implementation. The forest department is, therefore, still the *de facto* owner of the land. It reserves rights for rule making and enforcement, which are guided by working plan operations through the establishment of protection, working (plantation), and NTFP designated areas. The forest department decides on the penalties for any infractions, and is responsible for monitoring the forest. **100% of respondents believed that the operational rules in effect were too strict, and the general perception was that they were unfair.** The boundaries are therefore largely ineffective, and **operational rule compliance is low.** The villagers work in the forest every day, and rarely see members of the forest department. **Respondents claimed that they saw members of the FD between once per week and once every two months. Penalties are randomly assigned**, and usually take the form of a verbal warning, or instructions to bring the harvest to the depot in town, from which the FD takes all of the benefits. The forest department continues to reap a disproportionate share of the benefits from the land, particularly, the teak plantation in the reserve forest.

Interestingly, the forest department and the villagers have a similar perception of the rules in place constraining forest use. The FRO stated in an interview that “*the forest has no key, it is an open treasure,*” Similarly, villagers, having been excluded from the decision-making and rule making processes together with livelihood necessity, treat the system as though it is open. The interviews with the villagers demonstrated that there is a general consensus that the forest and its resource stock are declining every year, and that these problems are very real for the villagers who depend on the forest for survival. One villager explains the difficulty of population pressures: “*I fear that one day the forest will no longer be able to sustain us, resources are becoming more scarce every year. I fear that soon we will not be able to get firewood, or supplies, particularly bamboo, to build our houses. Without the forest, the Koya people would not survive*”.

**Table 20. Sustainable Institutional Arrangements: Indicator Scores (Control Village)**

Category	Indicator(s)/enabling conditions for sustainable forest development	Operationalization	Result	Change over time (+/- /0)
<b>Rules</b>	Clear boundaries	Formal boundaries are established and demarcated	No	0
	Clear ownership to use and manage resources	<i>De jure</i> and <i>de facto</i> ownership established as per FRA rules	No	0
		Sense of ownership	Mixed	0
	Perceived rule correspondence with local needs and conditions (i.e. match restrictions on harvests to regeneration of resources)	Local rules in use and perception those rules (too strict, too lax, appropriate)	Too strict	0
	Graduated Sanctions	Penalties augment gradually	Random, but mostly give instructions or warnings	0
		Penalties decided by	FD	0
	Compliance with rules in use	Infractions	Frequent	0
	Awareness and understanding of rules in use	User groups are aware of FRA	No	0
		Interpretation of operational rules in use	Open system	0
	Fair allocation of benefits from common resources	Allocation of funds for collective forest harvesting	Based on individual success for NTFP & bamboo, FD receives all financial benefits from teak plantation	0
Type and accountability of monitoring	Monitoring mechanism(s) in place	Yes	0	
	Community members are responsible for monitoring	No	0	
<b>Participation</b>	Level of participation among the community in decision-making	Presence of CFR committee/inclusion in decision-making regarding forest management	No	0
	Autonomy	Community user group is responsible for making operational rules	No	0

#### *Treatment Village*

The treatment village on the other hand, has witnessed substantial institutional changes since the beginning of 2014, most of which are positive. Formal boundaries are established and demarcated, and in May of 2014, the community received both *de jure* and *de facto* ownership from the acquisition of CFR title deeds in the name of the *gram sabha*. The villagers articulated a clear sense of ownership. **100% of respondents stated that the village owned the forest.** With the clarity and *de jure* ownership of the forest, the community reserves the right to craft rules regarding harvest and entry, and to devise monitoring schemes for fires, encroachment etc. Although there is no rule on harvest, or boundaries set for specific forestry purposes within the community, outsiders are exempt from felling trees, hunting, using water resources (streams etc.), and sand mining. The interpretation of these rules is focused on the ability to harvest bamboo and to earn money for community development projects, and very little is being done to limit felling and grazing within the village forest. The perception of the operational rules in use is mixed; however, the rule-making process is dynamic and is still a work-in-progress:

**Approximately 10% of respondents believed that the operational rules in use were too strict**  
**Approximately 20% of respondents believed that the operational rules in use were too lax**

**Approximately 70% of respondents believed that the operational rules in use were appropriate. Two youth are responsible for monitoring the forest for forest fires. Infractions of the operational rules have reportedly declined since the constitution of the CFR committee.**

The CFR committee was constituted in February 2014 by a democratic election within the village. The committee has 10 members, none of whom are former VSS committee representatives. The committee is comprised of seven men (one of whom is an elder) and three women (one of whom is an elder). The president was elected for his ability to communicate with outsiders, and to gather the community for meetings when they are required. Since its inception, the committee has reportedly held 15 meetings, to which all villagers are welcome. The last meeting recorded in the minute book, however, was on the 26<sup>th</sup> of November 2014. The president claimed that meetings were still occurring, but the secretary had left for Hyderabad, and he had not been able to find a replacement. **On average, 46 people (34%) from the village attend the forestry meetings.** A representative from the ITDA has been present for 10 of the meetings, and FROs, FBOs, and MOs have also attended.

The villagers were eager to talk about the success of the bamboo auction that they held in the village in June of 2014. The village made 26 *lakh* rupees (260,000), half of which was distributed among labourers who participated in the harvest, and the other half was deposited in the community investment fund, which partially funded solar panels and a tap system for water in the village, pursuant to the development issues discussed in the *gram sabha* in December 2014.

The forest department has reportedly refrained from felling any trees in the area demarcated as community forest, since the area was demarcated. There was, however, an incident when a villager cut 130 trees from outside of the CFR boundary. The FD wanted to ensure retribution, and used this incident to support arguments regarding the efficacy of the FRA in achieving sustainability, even threatening to cancel the CFR. Upon consultation with the ITDA, it was decided that the offender was to plant a total of 200 trees (teak and some NTFP), and tend them for 5 years. One villager concluded that *“the punishment was appropriate, it was a big offence after all. We must not tolerate rule breaking if we expect others to respect our rules. People will only follow rules out of the fear of what may happen if they break them.”*

**Table 21. Sustainable Institutional Arrangements: Indicator Scores (Treatment Village)**

Category	Indicator(s)/enabling conditions for sustainable forest development	Operationalization	Result	Change over time (+/-/0)	
<b>Rules</b>	Clear boundaries	Formal boundaries are established and demarcated	Yes	+	
	Clear ownership to use and manage resources	<i>De jure</i> and <i>de facto</i> ownership established as per FRA rules	Yes	+	
	Perceived rule correspondence with local needs and conditions (i.e. match restrictions on harvests to regeneration of resources)	Sense of ownership	Local rules in use and perception those rules (too strict, too lax, appropriate)	Yes	+
				Mixed result	-
	Sanctions	Penalties augment gradually		Yes	+
		Penalties decided by		<i>Gram sabha with advice from external agents as required*</i>	
	Compliance with rules in use	Infractions		Rare	+
	Awareness and understanding of rules in use	User groups are aware of FRA		Yes	+
		Number of meetings since inception		15 recorded	+
		Frequency of meetings		Every 2 weeks	+
		Interpretation of operational rules in use		Have rights for bamboo, can harvest bamboo	-
	Fair allocation of benefits from common resources	Allocation of funds for collective forest harvesting		Bamboo sale: 14 lakh rupees distributed among individual labourers 14 lakh rupees in community investment fund	+
	Type and accountability of monitoring	Monitoring mechanism(s) in place		Yes	+
Community members are responsible for monitoring			Yes	+	
<b>Participation</b>	Level of participation among the community in decision-making	Presence of CFR committee/inclusion in decision-making regarding forest management	Yes	+	
		Community participation	On average, 34% attend meetings	+	
	Autonomy	Community user group is responsible for making rules	Yes	+	

### Synthesis: Sustainable Forest Development Outcomes

Variation in outcomes between villages was clearly observed. The linkages between institutional components and access to livelihood assets should be explained if we are to fully understand how, and the extent to which this variation occurs. Some activities which cause changes in one outcome variable will have spillover effects into other areas, given the inevitable interactions between institutions and access to community livelihoods. On the other hand, other activities that cause changes in one outcome variable can undermine another. Human and social development will shape the nature of local institutions, while local institutions can shape the access to certain livelihood assets.

Developing and providing increased access to social and human capital can effectively bolster the institutional arrangements and operational rules in use that will influence the natural capital of a community. Ultimately, this mediates the benefits that can be acquired from the resource. The rapid and sudden influx of financial benefits and the subsequent infrastructural development in the treatment village could provide a perverse incentive to rapidly exploit the natural capital of the community in the pursuit of short-term benefits.

The novelty of the institutional arrangements raises some important concerns. There is some evidence that the villagers in the treatment village do not yet have the capacity to sustain the local arrangements on their own and over the long term. For example, the village has designated a bookkeeper to ensure accountability and transparency in the *gram sabha* operations. However, in a discussion with the CFR committee president, he expressed his concern over what to do since the bookkeeper has left for Hyderabad. She has not yet been replaced, which brings an opportunity for mischief, and elite capture. Furthermore, the relationships that have been constructed between the ITDA and the community are at risk of deteriorating due to the bifurcation and transfer of administration under which the village falls.

This could seriously hinder the optimization of the institutional outcomes. In order to fully explain the variation in the outcome indicators, and the extent to which the variation can be attributed to the intervention, its characteristics must be made explicit.

## Intervention Characteristics (Treatment Village)

### *Supporting Activities (Outputs)*

This section provides the results from the investigation regarding the ways in which external actors contribute to the extent of sustainable forest development. Specifically, the activities (outputs) that they implement to achieve the goals of their interventions are examined (Table 22). The table clarifies the notion that there is considerable overlap between governmental and non-governmental activity types. External actors play a key role as carriers of important information to isolated communities, specifically regarding policies from which vulnerable communities are expected to benefit. **55% of the treatment villagers became aware of the FRA directly from an external source** (either a PO from ITDA or from the CBO). The remaining respondents were indirectly informed through an external source. The CFR president was informed of the act from the former PO of ITDA. **The CBO has comparatively been more involved in capacity building activities, while the ITDA has focused more on technical administrative support (Table 22). Both actors are tribal rights activists, and therefore participate in advocacy activities.**

**Table 22. Outputs**

Category	General Activity (Barnes & van Laerhoven, 2014b)	Specific activity(/ies)	Target group	Implementing Actor(s)	Type of activity: I or II (Bebbington et al., 2002)
<b>Capacity Building</b>	Supporting communities in liaising with officials	Attending <i>gram sabha</i> meetings	<i>Gram sabha</i>	Both	II
		Inviting key actors to <i>gram sabha</i> meetings			
	Raising awareness of relevant policy	Introduction of FRA and PESA	<i>Gram sabha</i>	Both	I
	Actively discussing and advising on institutional aspects with the committees (e.g. participation, decision-making, rules and transparency)	Discussions regarding consensus decision-making	<i>Gram sabha</i>	CBO	I
	Arranging exposure visits	Visiting <i>Menda Lekha</i>	<i>Selected individuals</i>	CBO	I
		Attending food fair in New Delhi, organized by TRIFED			
		Inviting village leaders to state level consultation on the FRA		ITDA	
	Training volunteers	Training local volunteers to assist with the implementation of FRA (mapping and distributing Form B)	<i>Selected individuals (leaders)</i>	ITDA	I
		Training local volunteers to assist with value addition trainings		CBO	
	Provide technical forest trainings	Distributing booklets regarding silvicultural operations (for bamboo)	<i>Gram sabha</i>	CBO	I
	Conducting research	Research regarding untapped NTFPs; the impact of felling on the regeneration of bamboo; the status of tribal unemployment among youth	<i>Direct: Policymakers</i> <i>Inform activities</i>	CBO	II
		Research regarding implementation of the FRA in Khammam	<i>Indirect: Gram sabha</i>	ITDA	
	Value addition trainings for NTFP market development*	Value addition to <i>myrobalan</i> and Indian Gooseberry: <i>Trifala</i> powder	<i>30 villagers (women)</i>	CBO	I
		Value addition to mahua (oil)			
Value addition to lac (in progress)					
Conducting information sessions*	Biodiversity awareness meeting	<i>Multiple villages</i>	CBO	I	
Supplying communities with implements*	Iron agricultural implements distributed	<i>Multiple villages</i>	CBO	I	
<b>Technical Administrative Support</b>	Guiding through land claim process	Mapping customary boundaries Helping to file claims	<i>Gram sabha</i>	ITDA	II
	Bank linkage*	Setting up a community investment fund	<i>Gram sabha</i>	ITDA	II
	Assistance in marketing/awareness raising of local sale of forest products*	Raising awareness among buyers regarding bamboo auction Marketing and providing packaging for value added products	<i>Gram sabha</i>	ITDA CBO	II
<b>Advocacy</b>	Lobbying at the district, state or national level	Lobbying for transit permit	<i>Gram sabha</i>	ITDA	II
		Lobbying for CFR titles		ITDA	
	Active in NGO network	Member of CFR-LA	<i>Coalition</i>	CBO	II
Mobilizing the media*	Publishing on blogs, websites, organizing media exposure at local level	<i>General public</i>	Both	II	
<b>Other</b>	Contributing financial capital to infrastructure projects*	Contributing 1.55 lakh rupees to the tap system	<i>Gram sabha</i>	ITDA	I

\* Denotes activities not explicitly mentioned by Barnes & van Laerhoven (2014b)

### **Motivations, Approaches and Goals (Inputs)**

The activities (outputs) undertaken by external actors are intended to generate an outcome. The approach to the activity, the motivations, and the development goals sought by the intervention, however, can also influence the outcomes. The inputs shape the execution of the activity, because the same activity can be implemented in various ways, depending on the available inputs at the disposal of the external actor. Through the process of the activity, it is possible to infer the extent to which it is well received by the target group, and therefore the likelihood that it will yield positive outcomes. Furthermore, the goals and motivations that are behind each organizations' activities can shed some light on their reasons for choosing to implement a specific activity.

The local CBO was developed out of a larger society, established in the late 1970s. The organization was among the pioneers of voluntary civil society action in the area. The organization's activities are bred out of intolerance towards a history of social injustice. The local CBO selects the villages in which it works on the following basis:

1. presence of contacts
2. accessibility (proximity to office – must be reachable by motorcycle),
3. abundance of bamboo.

The rationale behind the focus on bamboo is that it can yield significant financial benefits, which will elicit enthusiasm and spark interests among villagers for future activities. The selection criteria suggests that the client villages are determined by logistics and untapped forest benefits, rather than by the extent of the need for assistance.

ITDA operates as a constituent of the MoTA with the main goal of fulfilling local agendas aimed at stimulating socio-economic development among tribal communities through infrastructural development and income generating schemes. The agency is motivated by the low welfare of tribal communities, and seeks to improve it through the rightful implementation of the FRA: *“my role now is to rightfully implement the FRA as quickly as possible. The bifurcation has unfortunately severely limited the potential achievements of sustainable community-based forest governance in this area”*.

**The empirical evidence below (Table 23) demonstrates that while the CBO tends to approach institutional change activities with the goal to craft institutions, the ITDA is more concerned with the actual designing of new institutions.**



**Table 23. Inputs Corresponding to Activities (Outputs)**

Actor	Activity	Approach to institutional change (Barnes & van Laerhoven, 2014b)	Goals	
<b>ITDA</b>	Attending CFR meetings	Multiple options	Oversight and low-cost conflict resolution	
	Inviting key actors to CFR meetings	Subjective crafting	Build social networks, build autonomy of new institution	
	Introduction of the FRA rules		Raise awareness, build understanding	
	Inviting village leaders to state level consultation on the FRA	Subjective design	Share experiences, learn from others, expand network	
	Training local volunteers to assist with the implementation of the FRA (mapping and distributing Form B)		Empower village leaders to inspire others through success stories	
	Research regarding implementation of the FRA in Khammam	Objective	Inform projects, inform policymakers	
	Mapping customary boundaries	Objective design	Clarify boundary of community entitlements	
	Helping to file claims		Obtain CFR in the name of <i>gram sabha</i>	
	Setting up community investment fund		Give autonomy over funds to the <i>gram sabha</i>	
	Raising awareness among buyers regarding bamboo auction	Multiple options	Increase turn-out for auction thereby increasing returns	
	Lobbying for transit permit	Objective design	Refraining from irresponsible spending (1 <i>lakh</i> ) on transport contractors to transport bamboo a mere 2km (from forest to village depot)	
	Contributing 1.55 <i>lakh</i> to solar water tap infrastructure	Direct provision of access to livelihood asset	Improve access to communal water facilities	
	<b>CBO</b>	Attending CFR meetings	Multiple options	Oversight and low-cost conflict resolution
		Inviting key actors to CFR meetings	Subjective crafting	Build social networks, build autonomy of new institution
Consensus decision-making		Objective crafting	Reduce internal conflict	
Introduction of the FRA and PESA rules		Subjective crafting	Raise awareness of relevant policy	
Exposure visit to <i>Mendha Lekha</i>			Inspire	
Attending food fair in New Delhi organized by TRIFED			Inspire and share ideas	
Distributing booklets regarding silvicultural operations (for bamboo)			Improve understanding of silviculture operations	
Research regarding untapped NTFPs; the impact of felling on the regeneration of bamboo; the status of tribal unemployment among youth		Objective	Inform projects, inform policymakers	
Value addition training to <i>myrobalan</i> and Indian gooseberry: <i>Trifala powder</i>		Subjective design	Gain practical skills and knowledge to increase financial returns	
Value addition training to mahua (oil)			Gain practical skills and knowledge to increase financial returns	
Value addition training to lac (in progress)			Gain practical skills and knowledge to increase financial returns, exploit untapped resources	
Biodiversity awareness meeting		Subjective crafting	Inform of the importance of biodiversity and indigenous seeds	
Supply agricultural implements		Direct provision of access to livelihood asset	Provide better tools and technology to make agriculture easier	
Marketing and providing packaging for value added products		Objective design	Increase transparency in the market	
Membership with CFR-LA		Subjective	Participate in continuous learning	
Publishing on blogs, websites, organizing media exposure at local level		Subjective	Inform general public or actors with similar interests on work,	

**Explanatory Mechanisms: Linking Inputs, Outputs, Outcomes**

The impact models explore the mechanisms that can elucidate the observed changes in the outcome variables that we observe between the cases. Additionally, the impact models take the unexpected outcomes into consideration. These results will inform the answer to the portion of the research question that explores the ways in which external interventions cause changes in the access to livelihood assets, and the institutions that mediate the access to those assets. In search of explanatory mechanisms, the impact model works backwards from the observed variation in outcomes between the treatment and control villages. Only the outcomes that vary spatially (between cases) and temporally (in time) are analyzed by establishing linkages with the characteristics of the intervention. The variation in space and time provides substantial evidence that the external intervention can at least partially explain the observed variation. The green boxes represent type I (direct support) activities, and the blue boxes represent type II (support in institutional development) activities.

### Socio-political Capital

The first observed outcome that has both varied in space and time is the perception of forest related conflict (Figure 10). Both actors targeted the *gram sabha* in their activities, however the CBO worked much more directly with the community in the pursuit of this outcome. The village had not come together in the *gram sabha*, as a result of a political conflict that segregated community members into two groups. The CBO expressed that it did not see the point in establishing a governance institution under CFR, when the community was divided with such polarity. The activity was inspired by the “each for all and all for each”, rule by all mantra as observed in the model village of *Menda Lekha* in Maharashtra. “I told them to come together for the sake of the bamboo,” the secretary of the CBO stated in an interview. Informed and motivated by extensive research regarding unsustainable felling measures, as well as taking the inspiration from the model village, the CBO saw this as an opportunity to unite the community around a common goal that could potentially bring with it positive outcomes and reduced levels of internal conflict. However, the way in which this activity was actually received and interpreted by the community raises some concerns. A member of the CFR committee member expressed the risk of being ostracized: “If somebody disagrees with a motion passed in the *gram sabha*, we will not help him or her if they have a problem, but it is rare that people disagree.”

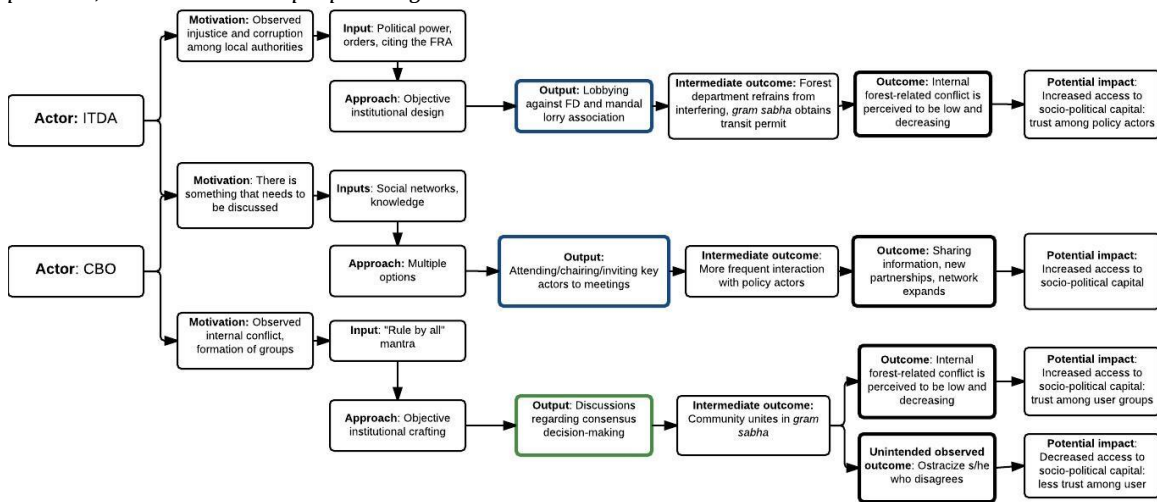


Figure 10. Impact model explaining the observed variation in socio-political capital

On the other hand, the ITDA intervention occurred at a higher policy level, acting to reduce the influence of the actors acting in their own interest (particularly the FD) to hinder the rightful implementation of the FRA and subsequent establishment of governing institutions for CBFM. The original problem situation came from the villagers trying to harvest bamboo from their VSS, but the FD consistently resisted their request. In October of 2013, the FD started pushing the villagers to harvest bamboo and transport it to the FD depot. As a result, the *gram sabha* passed a resolution to harvest the bamboo from their forest, and auction the bamboo on their own by establishing their own depot. The FD continued to oppose the wishes of the *gram sabha* by arguing that a VSS cannot have its own depot. On April 11<sup>th</sup> of 2014, the PO of ITDA passed an order to the FD citing the FRA, which stated that the *gram sabha* can store and sell NTFP (including bamboo), since the *gram sabha* had submitted its claim to the Sub-District Level Committee (SDLC).

Both actors have been actively involved in facilitating, attending, and chairing *gram sabha* and CFR committee meetings. While ITDA invited the *mandal* administrative officials, the CBO can perhaps explain the interest of ITDA in pursuing work in the village in the first place. The secretary invited the PO of ITDA and the DFO to a *gram sabha* meeting in 2013.

Given the discussion above, it can be surmised that the ITDA intervention can (at least partially) explain the observed perceived reduction in conflicts with external organizations (i.e. with the FD and the *mandal* lorry association), while the CBO intervention can explain the observed perceived reduction of internal conflict. The result is however uncertain whether this perception of conflict, coupled with the interpretation of the discussions surrounding “consensus decision making” (see Mohan, n.d.), will lead to

increased access to socio-political capital and the establishment of local institutional arrangements built on trust, or whether it will actually have the opposite impact, and elicit local elite capture of the local governing institution and its process.

### Physical Capital

It was observed that the treatment had relatively better public infrastructure than prior to external actor intervention, and when compared to the control village (Figure 11). The recent development project involving community investment in a solar powered water tap system project was partially funded by the ITDA (a direct provision of financial capital for public infrastructure), in addition to the earnings from the bamboo auction. The actions that ultimately lead to the bamboo auction were a key intermediate step, and a step in which both actors (but more directly the ITDA) played an instrumental role.

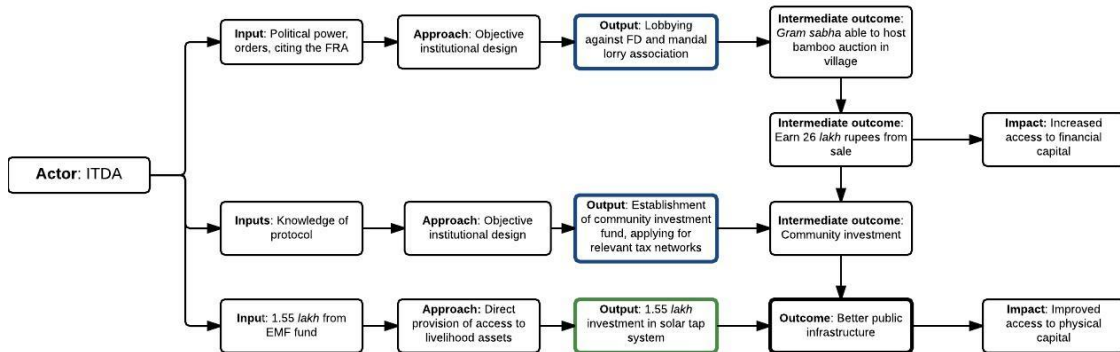


Figure 11. Impact model explaining the observed variation in physical capital

The observed difference in access to financial capital between the treatment and control group, in terms of total benefits received from the forest, total exploitation of the resource and the benefits per unit harvested can theoretically be traced back to activities undertaken by both actors (Figure 12). Acquiring ownership rights and the ability to collectively harvest and sell bamboo can explain the higher exploitation rate. This was not something that the treatment village was doing prior to the intervention, and it is not something that the control village is able to explore, as most people continue to sell bamboo walls to non-tribals in neighbouring villages for a mere 200 rupees/piece. The new financial gains that can be obtained as a result of the increased access to natural capital acts as an incentive for a higher rate of harvest, to achieve development. Be that as it may, due to the lack of operational rules informed by resource stock inventories and the rate of use, the social-ecological system can shift out of balance and ultimately undermine the stock on which the development of the community depends.

### Financial Capital

The ITDA has effectively mobilized its political power, connections and knowledge of protocol to lobby against opposing policy actors such as the FD and the *mandal* lorry association for the transit permit and the ability for the village to establish their own depot, raising awareness among buyers (contacting by phone, creating and posting advertisement flyers), and setting up a community investment fund to objectively design the disposition of novel institutional arrangements. On the other hand, the CBO has provided value addition training for the *mahua* flower and seed, and *myrobalan*. In an effort to create a local federation, groups of 30 villagers from an assortment of nearby villages are provided with training. The CBO, in collaboration with TRIFED, packages and markets the products. The *myrobalan* value addition will allow the members of the group to increase their benefits per unit harvested. When *myrobalan* is made into powder, it holds a high medicinal value, and can be sold for 35 rupees/bag, as opposed to 6-10/kg at the market or GCCs fixed price. One villager responded after receiving the training “I am feeling hopeful after receiving the training, I was not collecting *myrobalan* from the forest before, I will collect it next year”. Value addition trainings last for two days. The first day is an introduction to gauge villagers’ enthusiasm for the proposed activity. At least 30 people must attend. The following day, the CBO places the women into groups in which they are given hands-on training in making the product.

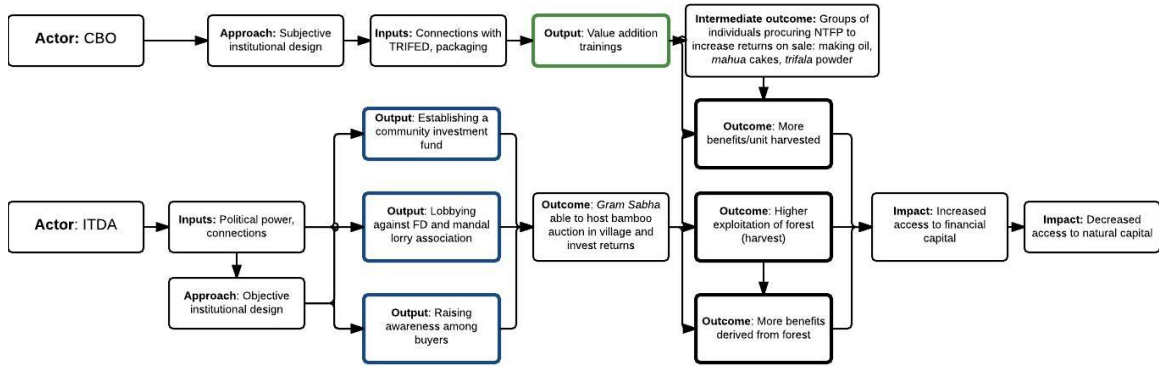


Figure 12. Impact model explaining the observed variation in financial capital

### Human Capital

The variation observed regarding the knowledge applicable to CBFM is attributable to both actors and can explain the coinciding variation in community access to human capital (Figure 13). Both actors have visited the treatment village to raise awareness regarding the FRA and the PESA, and as a result, seven of eight interviewees responded that they were aware of the policies. Training programs regarding proper silvicultural techniques and value addition training were both informed by the CBO's own research. These programs, however, do not reach every member of the community (an impossible task). Ultimately the implication is that by increasing community access to human capital, it becomes possible to inform local policy and rule crafting. However, the way in which the ITDA implemented their bookkeeping training program has already illuminated some problems, particularly the inability to respond to unexpected circumstances (i.e. the secretary leaving the village).

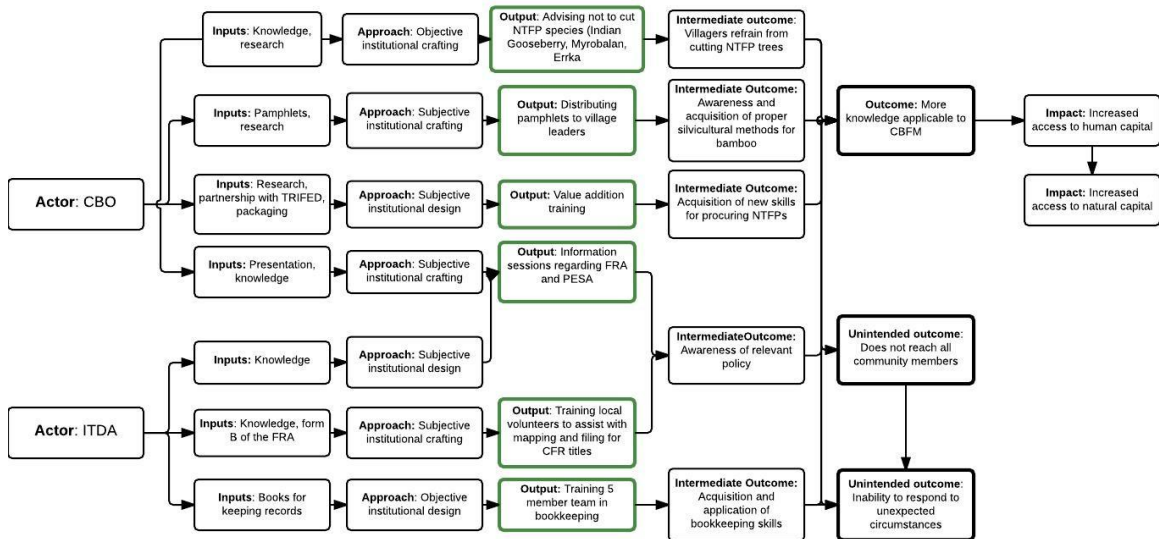


Figure 13. Impact model explaining the observed variation in human capital

The knowledge and skills applicable to CBFM are instrumental to enabling the derivation of novel institutional arrangements. Institutional arrangements mediate the access to community livelihood assets, in addition to ensuring the community is able to meaningfully participate in governance activities.

### Institutional Arrangements

When the non-governmental actor wishes to influence the nature of institutional arrangements, it typically takes a subjective institutional design perspective to attending and calling meetings. This leads to more frequent interaction with key policy actors, and essentially paved the way for the governmental actor to step in. Contrarily, the governmental actor takes more of an objective institutional design approach by

assisting with the filing of titles in order to establish clear *de jure* and *de facto* ownership. While these ultimately follow the design principles put forth by Ostrom (1999) and colleagues, and leads to more meaningful participation in governance (especially when compared with the control group), the novelty of the institutions brings to light some important concerns for the long term.

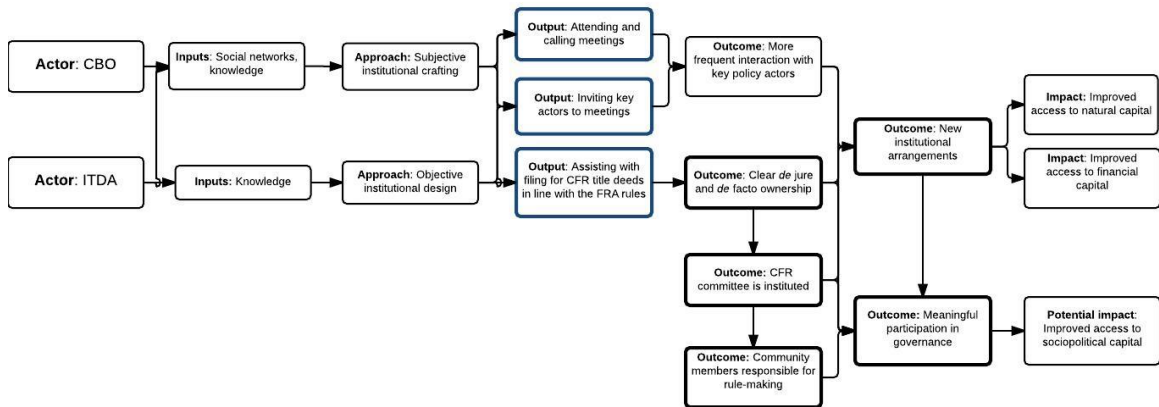


Figure 14. Impact model explaining the observed variation in local institutional arrangements

### Summary

The analysis demonstrates that external actors have a key role to play in community forestry. External actors, by means of their particular approach to institutional change, or by directly improving access to livelihood capital, can have a significant impact on improved access to livelihood assets. There is significant overlap and interdependency between the observed state and change variables. For example, knowledge and awareness of CBFM not only increases access to human capital for the community, but also enables meaningful participation in forest governance. Indeed, new decentralized institutional arrangements not only build up capacities for meaningful community participation in governance, but also simultaneously increase the community's ability both to increase returns from the natural capital that they harvest and to diversify resource exploitation strategies. Collective harvest and sale efforts have proven extremely effective in the treatment village, because these efforts stimulate public investment to improve village infrastructure, which leads to an expansion of the benefits beyond the participants in the harvest. However, due to a lack of rules on harvest, the system continues to function as if it were open, and the new financial gains could serve as an incentive to ramp up harvests in the absence of scientific knowledge of the implications and ecological limits.

## Chapter 7: Discussion

### Main Findings and Contribution to the Academic Debate

The situational reality explored and described in this thesis through the analysis of the cases is entirely consistent with the following statement:

Rights only truly take effect when implemented in practice – a political process that will likely challenge vested interests at every step. At the ground level, then, a rights-based approach is successful when the power dynamics of access are altered and access to livelihood assets are improved for formerly excluded and marginalized groups (Ribot & Larson, 2007, p. 192).

Uncertainty can arise in highly political environments in which top-down mechanisms are employed for the creation of new bottom-up institutions for the purpose of not only facilitating a respectable tenure transition, but also to devolve management responsibilities to the community. The evidence demonstrates that external actors can play an instrumental role in this process by:

- (1) ensuring that devolution happens in a legal and legitimate manner,
- (2) facilitating the necessary institutional changes to enhance access to natural capital,
- (3) conducting training programs to consolidate management skills, and
- (4) connecting villagers with new contacts to expand their network, both of which lead to increased access to socio-political and human capital.

By effectively providing the above assistance to forest-dependant communities involved in the difficult process of changing governance institutions external actors will stimulate improvement of the management skills and awareness of their target groups, which will increase the benefits that can be reaped from the resource (in both income, and subsequent investment). External actors can also foster institutional change at the local level by confronting illicit uses of authority calculated to hinder the implementation of a policy that may threaten historically created vested interests. Since natural resource management institutions mediate access to the natural capital on which forest-dwelling populations rely, the changes have succeeding implications for the ways in which the community exploits the resource, and the returns that they can obtain from the resource. It is submitted that the variation in both local institutional arrangements and community livelihood profiles between the control and treatment villages coincides with the presence of an external actor, and is explicable through the process of the intervention. The results for each component are explored in the light of the existing academic literature below.

### *Outcomes: Interplay between Institutions and Livelihood Profiles*

The observed variation in the outcomes is illustrative of the interplay between institutions and livelihood profiles. In particular, the shifting of ownership that in effect establishes new forms of forest governance is an important component of the construction of the livelihood profiles of forest-dependent populations by improving access to their primary means of safety net income. One would expect that if durable and sustainable indications of collective action change, not only when there is an external actor present, but also in part depending on who is involved, that this would therefore have implications for the access to livelihood assets that comprise a community's livelihood profile (Andersson, 2012; Barnes & van Laerhoven, 2013; Mersha & van Laerhoven, 2015). Furthermore, given Bebbington's (2002) distinction between two types of activities undertaken by external actors, the target variables of which are the provision of access to livelihood assets, and through changing the institutions that mediate such access, its understandable in that significant variation in both institutions and livelihoods can be observed, particularly when considering the local socio-political context.

In the treatment village, local institutional arrangements were more congruent with design principles for institutions supporting sustainable local collective action than they had been prior to the CFR intervention, and when compared with the control village. Institutional change has been effectively stimulated in the



control village: there is a local institution in which villager user groups are able to participate in rule making, ownership over the resource is clear, and user groups are aware of the provisions of the FRA.

Although access to natural capital in the treatment village has increased in institutional terms, both villages have noticed a decline in resource stock. Implicitly, one can gather from the results that there is a higher focus on human development from the exploitation of natural resources than there is attention to conservation. This has implications for sustainability, and securing a natural resource base that will be able to provide benefits to this generation and those in the future. The institution, still early in its development phase, has not created formal operational rules on harvest, grazing etc. Now that the community owns the resource, and institutional design principles are tipped in favour of promoting sustainable collective action, self-governance by constraining use is theoretically the natural progression. The question of sustainability, however, has been discussed with scepticism regarding deliberate CBFM design in general (see Armitage, 2005; Kellert et al., 2000; Nayak & Berkes, 2008).

The relationship between institutions and access to livelihood assets is dynamic and bilateral, but so is the relationship between the individual classes of capital. Changes in institutional components can change access to livelihood assets. Community livelihood profiles contribute to the type of institutional development that we can expect to emerge. Changes in one class of livelihood capital can have both positive and negative distal effects on other classes. For example, the increased access to natural and subsequent financial capital and, even more distally, physical capital in the treatment village is possibly attributable to a number of facilitating components of the external actor interventions. Without clear *de facto* and *de jure* ownership over the forest, this outcome would not have been evident. The establishment of ownership began by both external actors raising awareness regarding the FRA and PESA and how this applied to and could benefit the community. Subsequently, the technical administrative assistance to file the claims properly, and once they were at the SDLC level, using the rights to supplement lobbying activity by the ITDA against proponents for the maintenance of the *status quo* resulted in the backing down of the FD opposition toward the plan of the *gram sabha* in the treatment village to conduct a bamboo auction in their newly established village depot. The money earned from this intermediate outcome was significant, and not only rewarded participants, but the development of the community. We see here an example of how institutional change stimulated by the activities of an external actor benefited the community livelihood profile in the treatment village.

Another example can be found in reductions in internal and external conflict, partly brought about by a CBO capacity building initiative involving discussions surrounding consensus decision-making and reuniting the *gram sabha*, and by advocacy on the part of the ITDA to take on lobby groups. These efforts can lead to greater levels of trust and reciprocity among the community members themselves, and between the community and other user groups which, in turn can indirectly contribute to the crafting of new institutions, and bottom-up institution building founded on principles of trust and reciprocity. Conflict can be dealt with in a cost-effective manner by increasing access to socio-political capital. The emergence of self-governance arrangements is more likely when external organizations support local communities by offering access to low-cost forms of conflict resolution (Andersson, 2012; Barsimantov, 2009).

By supporting intermediate outcomes that stimulate change in how forest management is executed at the local level, external actors are focused on providing the means to support the exploration of new ways to exploit the newly acquired resource for increased financial gain and economic prosperity. This strategy, designed to encourage community investment in institutional reforms which will be beneficial over the long term, sometimes takes place without contemporaneous formal development of coherent conservation measures, such as rules to limit harvest to a sustainable level. The rapid introduction of significant financial gains, while greatly benefiting the human and physical development of the community, could shift the existing perception and relationship with the forest as predominantly a source of cultural value and livelihood, to one solely of income. "*The spirit of the act in a sense has been lost in this area, the only interest is in acquiring the rights over bamboo in order to harvest bamboo.*"

### **Outputs: Activities**

Not only will the same actor employ both type I and II activities, but there is also a difference between non-governmental and governmental actors in terms of their preferred activities. Outputs vary according



to what inputs are available (partnerships, funds, etc.) and what problem the activity is intended to change in the community. Outputs aim to change behaviours, and interactions and are focused on the human interface with the forest, rather than on the conditions of the forest itself.

Type I activities were observed to take their point of entry at improving the community's access to socio-political, human and financial capital, for the purpose of bringing about changes in the nature of local institutions. These sorts of activities appeared to be preferred by non-governmental actors. On the other hand, activities to support the development of institutions (either by design or crafting) can also be a point of entry intended to build livelihood profiles through structures that mediate their access. These activities were more frequently in the form of technical administrative support and advocacy activities undertaken by the governmental actor. However, the non-governmental actor also participated in such activities, which demonstrates a more flexible bottom-up approach that is not confined to project design and more rigid bureaucratic roles as is found with the government actor. This supports and supplements Bebbington et al.'s (2002) hypothesis that NGO interventions tend to focus more on the direct provision of access to assets than with fostering the institutional change that govern people's ability to access the assets. This research has supplemented the exploration of the activities undertaken by external actors as described by Barnes & van Laerhoven (2014b), as some of the observed activities undertaken by the external actors were not explicitly mentioned, and emphasizes the interconnectivity and the distribution of roles between governmental and non-governmental actors when considering the analytical typology put forth by Bebbington et al. (2002).

### ***Inputs: Motivations, Approaches and Goals***

This research also confirms that external actors indeed do not take a universal approach to their work, the content of which not only changes according to the stage at which the intervention is in its lifecycle, but which also depends on the organizational culture and structure of the implementing agent (Barnes & van Laerhoven, 2014b). This evidence suggests that while governmental actors (ITDA) tend to emphasize institutional design, due to their focus on technical administrative support on a project term basis, grassroots non-governmental organizations (CBO) more frequently take an institutional crafting approach due to their long-term investment and personal interest in institution building directed to the ultimate goal of self-sufficiency.

External actors are well equipped to play this role because they possess knowledge of, and access to, key resources (human, financial, political and social) that the community may lack, in part as a result of traditional exclusion from local resource governance. External actors have personal political capital, in the form of their networks and connections to other important policy actors with similar interests and in their ability to oppose authority. By mobilizing these resources external actors can represent the community's interests at higher levels and thereby offer the community and its institutions through the development of coalitions, a degree of embeddedness within the larger governance system.

Webb & Shivakoti's (2008) research made similar findings with regards to non-governmental actors, specifically that, in the process of devolution in India, one can envision the participation of non-governmental actors in fostering CBFM where they will help to build community stakes in CPRs (in this case bamboo and procurable NTFPs), to rebuild social capital in order to facilitate CPR management, and to promote bottom-up approaches to natural resource strategies. Some interventions approach institutional change by providing direct access to livelihood assets through capacity building, which could serve as another type of approach to institutional change as was described by Barnes & van Laerhoven (2014b).

The extent to which these actors are performing optimally (and thereby eliciting the optimal outcomes) is a matter of debate. It was observed that there was a minor, yet noticeable, clash between the intervening agencies' organizational cultures and structures. This was exemplified by the fact that, although the overarching interests and goals of the actors are in theory compatible, there has been a lack of collaboration at the external policy level. While ITDA works on a project basis and wants to achieve many results in a short period of time, the CBO recognizes that institutional change is a long-term investment that needs to be approached from the bottom-up, rather than the top-down. *"I believe that the community would be best off if it was self-sufficient, and did not rely on government aid; outsiders tend to dominate"*. It can only be expected that the implications that come with the unwillingness of actors to cooperate,

negotiate, collaborate, or at the very least communicate at higher levels will risk impeding not only the efficiency of the process (as some work may be unnecessarily duplicated), but also could cause factions within the community to form around individual actors or entities.

Returning to Barsimantov's (2009) central thesis regarding the extent to which a forestry intervention can lead to either a virtuous or a vicious cycle, depending on whether the external actor's motivation is focused primarily on the community, or the forest, one would expect that a virtuous cycle would ensue in the treatment village, however it is not innate to the establishment of novel institutions.

### **Summary: Linking up Inputs and Outputs, Outputs and Outcomes, and Inputs and Outcomes**

It can be argued that the extent and nature of the outcomes attributable to external interventions is in part contingent upon the nature of the motivations, and inputs that lead to the selection of a particular output, leading to a particular outcome. There is little oversight of policy implementation at the local level, coupled with the institutional inertia backing the vested interests of local authorities; under such conditions, external actors can fulfill that supporting role. Communal forest ownership is seen to precede self-organization in resource management, because it provides the incentive to safeguard the resource. The results put the natural progression of establishing modes of self-governance into serious question, and that under certain conditions (isolation, low human, social, and political capital, politicized rule of law, uncertainty), it is evident that external interventions not only present themselves (Andersson, 2012), but can also stimulate the institutional change and capacity building that is required for new forms of governance to emerge. However this is to an extent natural because there is a reason for which external actors present themselves to help, which may be bred out of the belief that a better arrangement is possible and would benefit more people, but strangely this does not come from within the community (at least to the extent that positive changes become implementable). Under conditions of a significant tenure reform and implicit redistribution of powers, external help is required to puncture the stasis sought by external incumbents. Local support interventions can emerge for a number of reasons and implement itself in a number of ways, all of which have implications for the observed variation in the components of sustainable forest development.

Since the input determines the selection and process of the output, it therefore has implications for the state of the outcomes. The results demonstrate that approaches that are objective and/or take on the design of new institutions is more likely to be associated with activities that are aimed to support institutional development (type II), whereas the subjective approaches and/or those intending to craft institutions are more likely to be affiliated with the direct provision of livelihood assets, via training etc. (type I).

### **Policy Implications**

"CBFM might not always be the most suitable approach for managing vulnerable commons resources. A focus on adaptive capacity can help to establish where certain tasks should be undertaken by extra-local authorities and where community-based organizations should play a lead role. Different social actors in a CBFM process will have different capabilities to adapt to perturbations and variability in ways that encourage positive outcomes" (Armitage, 2005, p. 713).

External actors act to overcome the inequity of structural power asymmetries among user groups to an extent, by advocating the interest of the community as a whole, by building community capacities, and by providing technical administrative assistance. They can also, perhaps inadvertently, reinforce, existing and introduce new asymmetries within the local community (Ribot, 2008). . An ambitious approach to the creation of institutions to stimulate rapid development (undertaken by the ITDA's project) can create a degree of unwanted dependence. When the external actor departs the scene there is a risk that the community and its new institutions, which require development of a new set of skills, will be left vulnerable and have an uncertain ability to respond to unexpected challenges. It is submitted that a long-term grass roots investment would be most appropriate. In this context, local institutional change will not happen unless an action penetrates the inefficient institutional inertia perpetuated by incumbent proponents of the *status quo*. There should be a mechanism in place to create convergence among actors and to distribute roles accordingly. This is in accord with the proposition of by Larson & Ribot (2006),

that poverty alleviation for forest-based communities requires a radical rethinking of forest policy so as to counterbalance widespread regressive policies and structural asymmetries. While this is not only relevant to policy development it is also crucial to address during policy implementation. National policies aimed at decentralization of governance, and which implicitly require new institutional arrangements, need regional supporting mechanisms (such as those employed by supporting government agencies and NGOs) to ensure that the process does not get surped by local elites acting to protect their own interests. Institutional structures that have mediated access to community livelihood assets and which shape relationships among user groups for long periods of time are difficult to uproot. Top down policy implementation of a tenure transition, which implies the devolution of power and the decentralization of governing responsibilities from the state FD to local community-based institutions is not going to happen swiftly, due to the historical relationship (ruler-ruled) between the two actors (Ghate, 2009).

Dependence on external agents for tenure reform support in disadvantaged communities leaves us with uncertainty. Efforts focused in one problem area (symptom) may lead to other unexpected problems in another. CBO community training and exposure to the concept of consensus decision making which is then interpreted to ostracize those who disagree) can actually lead to elite capture and the opposite of the intended outcome of social cohesion. Similarly, the government agency's goal to enact FRA properly as quickly as possible can miss the larger goals of the statute and lead to the loss of its spirit.

Another concern is the tendency for external actors to act too much on behalf of the community, rather than by supplying them with the tools and adaptive capacities to sustain themselves. This brings into question the extent of empowerment.

## Methodological Limitations and Implications

Despite the merit that some of the claims made from this research may have, the methodological limitations and implications should be made explicit in terms of both practical considerations and methodological rigour. The methodological caveats certainly deserve a place in the discussion, because they influence the results. "Without rigor, research is worthless, becomes fiction, and loses its utility", (Morse et al., 2002, p.14). Rigour is operationalized to express the reliability, that is, the degree to which a research instrument produces stable and consistent results that provide an accurate representation of the total population under study, and the validity, which determines whether the research truly measures that which it was intended to measure, or how truthful the results are (Joppe, 2000 cited in Golafshani, 2003).

The practical limitations endured throughout the research were clustered around the lack of time, data scarcity in the field and inexperience in primary data collection. Due to the dichotomy between rhetoric and reality in the Indian forest policy context, the research became contingent upon the honesty of the key informant interviewees. Some officials were unwilling to share important documents (even those as trivial as maps). The research experience blurred the lines between retaining objectivity and independence, and the inevitable dependency on establishing a network in the field. Efforts were made throughout fieldwork to minimize the potential impact of these limitations. Their implications for the results presented in this research are presented below.

### Reliability

The primary instrument used to collect data was the interview, which taps into narratives and knowledge that may otherwise not be derived from statistics or other forms of quantitative data. Since the interviews required the assistance of an interpreter, it is inevitable that some data will have been lost in translation. Similarly, asking strange research questions as a foreigner in rural India could have influenced the way in which interviewees responded. Some measures were taken to minimize the risk of this:

1. explaining before every interview the purpose of the research,
2. dressing as a local,
3. learning key words in local languages of *Telugu* and *Koya*,
4. multiple site visits and living nearby to build rapport and trust with the locals,
5. working with a translator who spoke *Koya* for villager interviews.

The same questions were asked to all villagers. Dishonest answers are always a risk with interviews, however, once some of the trends became apparent, it was possible to verify that the translation was correct and the question understood.

The same set of questions was asked of the external actors. Interviews are only as reliable as what the interviewee is willing to share. Due to the relative unwillingness of the FRO to speak or to share much information, the perspective was gathered from limited interviews with another FBO, and the Working Plan, which was obtained with difficulty due to bureaucratic resistance and suspicion.

The household survey, from which general village profile data was gathered, had been done during fieldwork by the Society for the Elimination of Rural Poverty (SERP) for the treatment village, but had been lost for the control group. To address this issue, the same blank survey was obtained and distributed to the control. Working in an area with such limited data provided a significant challenge to provide specific measurements of indicators. Furthermore, verification of the attributions was not possible for all of the indicators.

“Simply being in the respondent’s environment enhances the likelihoods of their meaning emerging and being recognized. It is a means to enhance validity” (Long & Johnson, 2000, p. 34). The indicators were selected to optimally represent the phenomena to which they were intended to apply and were supported by the literature. Institutions were measured and compared by design principles, while a mix of operationalized livelihood assets comprised the profiles. The mix of exploratory and evaluative research provided for fruitful discussions, because the local context was considered in the light of the indicators throughout. As in most case study research, the internal validity is believed to be high, while the external validity is less so.

Aggregate error from the reliability of interview data regarding benefits from NTFPs could be problematic. Some of the analysis required making assumptions (particularly for the comparison of forest benefits between villages). However, due to the application of assumptions to both villages, they are evened out. The interconnectivity between and the dynamic nature of the indicators provided a continuous challenge throughout data analysis and collection. As institutions develop, they shape the nature of community development and livelihood profiles. There is always the problem of multitude of variables in the social sciences, and unfortunately, some had to be overlooked given the practical constraints of the project.

### **Implications for the Results**

Since the intervention is ongoing, and was observed in isolation, the short-term gains could be adequately captured, however, the long term sustainability, robustness and resilience of the institutions are still very much uncertain. It was therefore difficult to observe what the situation would be entirely ex-post. This could lead to overestimation of the positive results in terms of institutions and livelihood profiles attributable to the intervention.

### **Causality**

We can say the independent variable is linked to the dependent variable, when it is possible to use that setting to cause the dependent variable(s) to either: come into being, to disappear, or to change in degree (Ostrom, 2005). Given this definition, the independent variable (external actor intervention), and the dependent variables (local institutional arrangements and community livelihood profiles) are certainly related because we have observed that the external intervention has contributed to changing the nature of community livelihood profiles and institutional arrangements. This fulfills the first criteria of causality: *correlation* (Kenny, 2008). Because there has been variation in time from the temporal dimension attributed to the data and analysis, it can be surmised that external interventions in the case study, preceded the effect of institutional changes arising from implementation of the FRA, fulfilling the second precondition for establishing causality: *precedence* (Kenny, 2008). The third and most difficult criterion of causality is *non-spuriousness*, the condition which states that the bivariate relationship cannot be accounted for by any other theoretically related variable (Kenny, 2008). The relationship described in this research is very much a product of the local context in which it operates, which is an inevitable result of case study research, and why it is critical to understand the historical context of the observed social phenomena (particularly the outcomes). While drawing out the local context and the implications of that context are crucial to the internal validity of the results, and considered to be an advantage of case study research design, the extent to which the claims are externally valid is questionable. Generalizability becomes difficult. The non-spuriousness condition is not entirely fulfilled, but the other theoretically

related variables and alternate explanations for why there is an observed variation in the outcomes are discussed below.

### ***Exogenous Factors***

Of course there are many other factors which contribute to the variation of the dependent variables analyzed in this report. Accounting for exogenous factors was a consistent challenge, and was considered throughout the planning of the research design and execution, in order to minimize the impact of such factors on the results.

Other contemporary or previously implemented development schemes and projects can influence the status of institutions and the status of livelihood profiles. In the case of Andhra Pradesh, many attempts at participatory forest management have failed: JFM from 1994-2000, and CFM from 2002-2008, both of which were highly dependent on the assistance of the World Bank, and did not lead to the empowerment of forest-dependent populations (see Forest Peoples Programme & Samata, 2005; Griffiths, 2006). The failure of previous social forestry programmes could have influenced the perception regarding new forest policy of villagers in the control group as they experienced those failures more radically than residents in the treatment village, where at least there was external involvement to observe some of the goings-on in the treatment village. The classification of the forest may also play a role; while the treatment village was characterized as a VSS, which had a boundary demarcated, the control village uses patches of the reserve forest, on which the forest department has planted teak. Forest classification is a political procedure. Defining forests can have significant ecological and social ramifications and will determine parameters such as who is the ultimate beneficiary of the resource. For example, a reserve forest allows for forest department activities to flourish (such as agroforestry), but will be problematic for the dwelling populations who are excluded from entry and/or benefits. The forest department may have more of a vested interest in a reserve forest than solely a VSS forest.

A person's livelihood is defined by all that he or she must do to secure the necessities of life.. It was not possible in this research to accurately capture all of the components of a livelihood, and the factors that influence those components. Market forces of supply and demand, in addition to the higher population pressure in the control group could explain this group's more dismal outcomes in livelihood profiles. The benefits derived from the forest by the treatment group could be a result of simple market mechanisms of supply, demand, and market access. Because of less population pressure, there could be a higher abundance of important NTFPs. Similarly, there are multiple factors that feed into institutional change, and many theorists have grappled with how institutional change happens at the local level, whether by design or by natural evolution to create the emergence of self-governing arrangements,. The two villages are in close geographic proximity, under the same district forest administration, and were controlled for many key exogenous conditions that could have also caused changes in the dependent variables. However, it is recognized that no two villages are exactly the same and therefore, to a degree, it is unfair to compare them. Given the community level in the units of analyses, however, it was still possible to make some general inferences through inductive reasoning.

## Chapter 8: Conclusion

Sustainable forest development must prevail in a manner that can sustain both ecosystem health and develop community livelihoods. It is clear that the multiple user groups in the Bhadrachalam forest division are testing the thresholds of their forest ecosystems. Andhra Pradesh was hit hardest of any state by the 5<sup>th</sup> deadliest heat wave that swept the nation this summer. Institutional change is a daunting task, especially considering the historical relations between the forest-dwelling tribal communities and the state forest department. The process of repairing these relationships is far from swift. Moreover, it remains far from clear whether or not the tenure transition will result in better management. While devolving management responsibilities and tenure to the *gram sabha* is certainly more equitable than the previous regime it is by no means certain that this reform measure will actually place the community on a path towards sustainable resource use. In theory, it would seem to be a logical and natural progression leading to the establishment of a self-governing institution, which manifests sustainability principles. In practice, it is likely to be more complicated than that.

“Legal forestry and forestry laws, however, are not always based on criteria of sustainability, and even if diligently followed, many regulations would not result in sustainable management” (Larson & Ribot, 2007, p.4).

In India, not only are forestry laws at times neglected to serve the interest of the incumbent power holders, who capitalize on dwellers’ vulnerabilities, but are also (when implemented) not necessarily expected to innately appreciate principles of sustainability. It is clear that external actors play a role in *institutional change*, and *human, financial, and socio-political capital development*, but it is unclear whether or not the outcomes will be *sustainable* in the long term, due to their emergence based on deliberate design, rather than natural evolution. It places substantial power and great responsibility in the hands of external supporting actors. It seems that external opposing forces that threaten the rightful implementation of the FRA and the autonomy of the community, must be met with external supporting forces, if positive change in favour of the community’s development is to occur.

That being said, it appears as though the Indian forest bureaucracy has created a rather peculiar dilemma. By excluding tribal populations from reaping a reasonable amount of benefits on the land on which they reside and depend directly, poverty persisted among tribal dwellers. Further, by executing central management plans that encourage plantation activities has lead to competing land and resource use among the authorities and forest dwellers, and is frequently succeeded by ecosystem degradation.

Coming back to the first research subquestion:

1. *Is there a significant difference in the outcomes regarding: (a) local institutional arrangements, and (b) community livelihood assets, depending on the presence of external actors?*
  - a. *How have institutions changed over time?*
  - b. *How has community access to livelihood assets changed over time?*

In the treatment village, a variation in both community livelihood profiles, and local institutional arrangements was observed. Indicator scores to be improving over time, and relatively better when compared with the control. The treatment village has successfully shifted the power balance between the forest department and the community on their land on which they have received entitlements. Contrarily, the control village continues to be threatened by the assertion of *de facto* FD authority, and has experienced no local institutional change, or access to livelihood assets. The empirical evidence has demonstrated that such variation in community access to livelihood assets (through the means of creating new institutions to mediate access in differently) has been arguably created by intermediate outcomes stimulating behavioural change that is in part attributable to the various activities undertaken by the external interventions.

The variation can be explained by observing the process of the external interventions to derive possible explanations for the ways in which the intervention contributed to changing the conditions of institutional arrangements and community livelihood profiles.

2. *What are the motivations, approaches (inputs) and associated activities (outputs) undertaken by external actors?*



The motivations are similar for both actors as their activities emerge against the backdrop of injustice done onto innocent and vulnerable populations, who ironically occupy some of the traditionally richest landscapes, in terms of natural resources. Both external actors have a wealth of knowledge, diverse communication channels and financial resources to put into their activities. They do differ slightly in the approach that they take more frequently (ITDA typically approaches their activities with the goal of institutional design, while the NGO does more with institutional crafting) which is also in part due to the types of activities they are more frequently involved in (ITDA is more frequently involved in technical administrative support, while the NGO is more frequently involved in bottom up capacity building). Translating this finding to Bebbington et al.'s (2002) typology, ITDA is more involved with supporting institutional development (type II) to feedback into community livelihood profiles, while the CBO is more involved with direct livelihood support (type I) to feedback into the characteristics of local institutional arrangements.

3. *How do approaches, motivations (inputs) and the associated activities (outputs) explain any variation in the components of sustainable forest development (outcomes)?*

It is observed that both type I and II activities lead to changes in institutions and community livelihood profiles, due to the intricate behavior of the variables. The difference lies in the intermediate outcome that causes more immediate effects on the outcome variable to which it is directed, and the way in which the change takes place. While type I activities cause more immediate outcomes in terms of community livelihood profiles, type II activities cause more immediate outcomes in terms of institutional change. This is intuitive, however the intricacy of the variables provides an opportunity for more positive change to ensue. Type I activities which use the point of entry as increasing access to human, and socio-political capitals through capacity building will ultimately lead to better outcomes in those aspects of the community's livelihood profile, but they will also likely lead to the construction of more robust institutions. On the other hand, the institutional changes that were observed to be facilitated by external actors have significant effects on the community's access to natural capital, and subsequently financial and physical capital. The activity stimulates an intermediate event that disrupts the homeostasis of the current institutional architecture and/or community livelihood profile, therefore generating effects on these dependent variables.

Inputs are also related to outcomes and can cause a certain degree of change. It is discerned that activities (outputs) can be implemented in different ways depending on the critical resources (knowledge, finances, and human resources) accessible to the actors, or the characteristics of the village in which it is working. Inputs to an extent determine the selection of outputs, and certainly the process of the outputs.

The extent to which these inputs and outputs cause changes is dependent on the extent to which the programs are well received and reach a significant and equitable portion of the population. Future research could test and compare different approaches to the same activities in order to determine the optimal approach. The type of community would also need to be considered, in order to determine which sorts of activities and approaches would be most appropriate given the community's stage of development and needs.

This research has provided a detailed account of external interventions in CBFM, using empirical evidence from India. The answers to the subquestions allow for the necessary inferences to answer its central guiding research question:

***To what extent and in what ways do interventions in CBFM undertaken by external actors contribute to sustainable forest development in tribal communities in Andhra Pradesh, India?***

Given that variation in the characteristics of local institutional arrangements mediating access to community livelihood assets, and community livelihood assets was observed between the cases and in time, it can be surmised that external actors do contribute to achieving sustainable forest development in tribal communities. The research concludes from the empirical evidence presented in this report that under conditions of community vulnerability that are partly a result of state oppression, external actors will build up capacities by providing direct access to livelihood capital (particularly human, socio-political, financial, and physical) through the implementation of type I activities. Under harsh political climates accompanying policy change against well-established institutional inertia, external actors are an impetus



to institutional change by employing type II activities to challenge resistance by incumbents seeking to maintain *status quo* governing regimes. Institutions mediate access to the livelihood assets that comprise community livelihood profiles, and strong community livelihood profiles are necessary for the establishment of robust and sustainable local institutions. External actors in this context tend to focus their efforts on institutional change (type II) to enable access to natural capital, financial and physical capital, and use human and socio-political capital as a point of entry for strengthening community livelihood profiles (type I). However, the implicit lack of attention to natural capital in terms of conservation or restoration could potentially have stark implications for the sustainability of the ecosystem on which community livelihoods are dependent.

The highly political climate fuelled by polarized institutional perspectives (between MoTA and MoEFCC) regarding the implementation of the supporting legal framework, coupled with low political power and awareness as a result of isolation produces a dependence on supporting external actors to exercise their ability to even the political playing field and ensure that the local communities are not denied their entitlements due to the process repeatedly being stagnated in favour of incumbent interests. There is therefore a dependence on NGOs to build capacity amongst disadvantaged communities to empower them and to seek government support by connecting these communities with the right people. There is an observed difference between the activities and approaches of non-governmental external actors and governmental external actors, and therefore the ways in which this change in outcomes happens. The governmental actor under study was inclined towards technical administrative support activities, which typically are categorized as activities to support institutional development, predominantly employing an institutional design approach. On the other hand the non-governmental actor more frequently provided direct livelihood support to craft institutions from the bottom-up. Institutional crafting can include both direct livelihood support activities (I), and support in institutional development (II), while institutional design is typically only followed by support in institutional development (II) activities. Through building up capacities and changing institutions, external actors can account for the variance in outcomes that was observed in the field.

Despite noticeable progress, the extent to which these changes will sustain themselves over the long-term remains uncertain. It appears that the institutional changes that are required to alleviate the twin problems of poverty and deforestation require a greater collective effort to disrupt incumbent institutional inertia. External actors working towards this goal on the local level can provide critical support to this endeavour. Sustainability principles have a critical role in legal forestry and oversight but they are not necessarily innate to new governance arrangements. With luck they can be expected to follow. Perhaps if new institutional arrangements are to be founded on principles of co-operation for more sustainable forms of collective action, they need a degree of collective action during implementation to oppose those acting collectively to maintain the *status quo* as well. The findings demonstrate that an external force of oppression and opposition needs to be met with an equal external force of democratic support in order for change to surely happen.

## Recommendations and Opportunities for Future Research

To conclude this research, I make a few recommendations for external actors undertaking development work, and the new governing institutions:

- (1) Be absolutely clear on what the communities' capacities are prior to the intervention, and continually integrate new information in a participatory manner to which the community is an integral part, so that next steps can be appropriately planned for optimal outcomes.
- (2) Broaden the scope of the target group in some cases, as opposed to relying on leaders in the community (for example in pamphlet distribution) – this would avoid the risk of empowering the leaders and shifting local power balances in favour of the advantaged. This would also reduce the enabling conditions for the unintended consequences that fuel claims such as those made by critics of intentional development aid.
- (3) Integrate more sustainability principles into the intervention: introduce the benefits of constructing a rule for annual allowable harvest, informed by ecological stock data, or designate specific areas in the forest for specific purposes (such as grazing), to avoid the tragedy of the commons.
- (4) Introduce more accountability and oversight into NGO operations

Although this research, based on its analysis, has attempted to contribute some fruitful discussion to the state of the art knowledge base in the academic literature, there is always an opportunity for future research. Readers of this report are invited to take up questions that were left unanswered in order to solidify or to refute the external validity of the results. Not all interventions will have similar outcomes. In part this can be traced back to the ways in which the intervention is motivated, approached, and implemented. Future comparative studies could look specifically at similar activities implemented by different agents, to further explore the connection between the inputs and outcomes of an intervention. Specifically with respect to institutions, novel institutional arrangements brought into being at the initiative of external actors, and those which have evolved naturally through the village self-initiating the process should be compared in terms of robustness, which Ostrom (2005), defined as the maintenance of systems performance, even when it is subject to external, unpredictable disturbances. Furthermore, this analysis did not include a fruitful discussion regarding the connection, if any, between increases in financial returns, and more investment in better education and health, which would lead to improved access to key human capital assets.

Given that supporting interventions are sparsely concentrated in the hope of creating “model” villages to stimulate the widespread adoption of the community forestry paradigm, an analysis of spillover effects from an intervention in one village to neighbouring villages would offer a constructive contribution to the understanding of external actors in community forestry, particularly in terms of the “reach” of a particular intervention. This would effectively put into question whether or not the establishment of model villages is an optimal way to go about implementing new local forest policy. The long-term monitoring of the progression of intra-village relationships and how the new local institutional arrangements progress and grow, could also provide greater understanding of the longer-term implications of sporadic deliberate forestry development interventions undertaken by external actors.

It has also been observed that little attention is paid to deploying innovative conservation mechanisms at the local level. This suggests that another issue that could be taken up by future practical researchers would be a search for ways in which forestry interventions could optimize livelihood *and* conservation outcomes under particular circumstances. Institutional change, together with a redistribution of ownership and the power of ownership implies a certain degree of normative transfer. How is it possible to ensure that best practices are followed when devolution of ownership, powers, and responsibilities is deliberate and initiated by the supporting activities of an external intervention? In cases where access to information and research on such matters is scarce, how can it be certain that the actor is not simply imposing its own vision, or the extent to which shibboleth principles of governance are simply transferred with ownership? To what extent are new management practices adopted after devolution, and how sustainable are they? The last question arising from this research is whether the use of forest products (brought about by the institutional changes in part stimulated by external interventions that have increased access to natural capital) is within the carrying capacity of the ecosystem under community management, and, if not, what are the appropriate policy recommendations?

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# Appendix I: Interview Questions

## Villager Interviews

**Table 24. Interview sheet regarding perception of forest used by the community, operational rules and regulations, awareness of policy, and perception of conflict**

Question	Answer (circle or write)	Reason
What is the size of the forest (ha)?		N/A
What kind of forest do you use?	i) Natural Forest ii) Plantation Forest iii) Mix of i) & ii)	Plantation by whom?
(If answer to above is ii or iii) Are plantations seen as good forest, bad forest	i) Good forest ii) Bad forest	
Who does he/she think is the owner of the forest?	i) Forest department (government) ii) Private iii) Community	
Do you know the forest rights act ( <i>adivi hakulu</i> )?	i) Yes ii) No	From who?
How do you see the forest?	i) Sacred (god/mother) ii) Source of income iii) Source of livelihood	
What changes in the number of trees in forest have occurred in the past 5 years?	i) Decrease ii) Remained the same iii) Increased	
What changes in the number of shrubs, bushes (like beedi) have occurred in the past 5 years?	i) Decrease ii) Remained the same iii) Increased	
What changes in the grass cover have occurred in the past 5 years	i) Decrease ii) Remained the same iii) Increased	
What is the distance from the village to the forest	i) Less than 1 km ii) 1-5km iii) 6-10km iv) >11km	N/A
Is there a difference in the amount (kg) of products from the previous list collected now, compared to 5 years ago?	i) Increase ii) Decrease iii) Remained the same	
How much distance do you travel from home to collect products from the forest?		N/A
Has this distance increased/decreased in the past 5 years?	i) Increased ii) Decreased iii) Remained the same	Who is cutting trees?

Are there any conflicts, or other forest-related problems in the village? (multiple answers are possible)	i) Yes, with the forest department ii) Yes, with villagers in my village iii) Yes, with villagers in neighbouring villages iv) No v) Other	
Has this conflict increased/decreased in the past 5 years?	i) Increased ii) Decreased iii) Remained the same	
Describe the quality of your forest	i) Excellent ii) Nice iii) Okay iv) Not nice	
What will be the biggest problem in your forest in the next 5 years?		
Do you have cattle (goats, cows)?	___ goats ___ cows	N/A
Where do the cattle graze?	i) Forest ii) Village iii) Both	(Time of year)
Is he/she participating in decision-making about the forest (i.e attending committee meetings about the forest)?	i) Yes ii) No	How many? How did he/she find them?
How do you find the rules that are in place regarding felling and entry?	i) The rules are too strict ii) The rules are not strict enough, I can take more without harming the forest iii) The rules are good	
Is the village planning to plant any trees in the forest?	i) Yes ii) No	N/A
If yes, which species for what purpose?	i) Medicinal ii) Biofuel iii) NTFP iv) Income generating (eucalyptus, bamboo, teak)	Name of species: Purpose:
Are you personally planning to plant any trees in the forest?	i) Yes ii) No	N/A
If yes, which species for what purpose?	i) Medicinal ii) Biofuel	Name of species: Purpose:

	iii) iv)	NTFP Income generating (eucalyptus, bamboo, teak)		
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**Table 25. Blank NTFP sheet used for collecting data (George, 2015)**

NTFP	Commercial	Subsistence	Barter	Part Used	End Use	Quantity collected	Commercial Value	Season of collection	Sell at GCC Godown?	Sell in Village?	Sell in Santa? Exchange for rice ?	Method of Collection

## External Actor Interviews

### Question set #1: External interventions

1. Could you tell me about the progression of local forest policy in [THE CONTROL VILLAGE]?
2. Could you tell me about the work that your organization is currently involved in to support the community in forestry?
3. Why did you choose to work in [THE CONTROL VILLAGE]?
4. What was the original problem scenario that motivated you to implement [ACTIVITY]?
5. How did you implement or execute [ACTIVITY], what typically happens?
6. How would [ACTIVITY] solve the problem scenario?
7. What is the ideal scenario for these villages, in your opinion?
8. What do you think is the biggest problem currently faced by [THE CONTROL VILLAGE]?

### Question set #2: External influence on institutions (rules)

Which of the following activities has the organization Coordinated (C); for which has it passed rules (P) and/or modified rules (M); for which has it not (N) done any of the above	Circle one option	Year	Explanation
Plant seeds, seedlings etc.	C P M N		
Other maintenance	C P M N		
Distribute forest products to local users	C P M N		
Sell forest products	C P M N		
Distribute revenue from sale of forest products	C P M N		
Determine timing (season) of the harvest of forest products	C P M N		
Determine the quantity of forest products harvested	C P M N		
Determine type of technology used to harvest forest products	C P M N		
Determine who is authorized to harvest forest products	C P M N		
Determine the use can be made of forest products	C P M N		
Sell rights to harvest forest products that users can trade with others	C P M N		
Rent nontransferable rights to harvest forest products	C P M N		
Monitor forest condition	C P M N		
Monitor conformance to rules	C P M N		
Sanction rule breakers (fines, punishment)	C P M N		
Arbitrate disputes among local users	C P M N		
Interact with higher authorities	C P M N		



## Appendix II: Household Survey

Table 26. Household Survey (Modified from IKPs Survey)

# people in household	Sex of members	Household income	Education	Occupation	Home	Land ownership	Extent	Use	Cattle

## Appendix III: Focus Group Discussions

Activity #1: Participatory mapping of seasonality of main NTFP species

NTFP	Season

Activity #2: Discussion regarding public infrastructure

Table 27. Public Infrastructure

Health services	Distance from village	Education services	Distance from village	Water facility	Latrine
		Angenwadi			
		Primary			
		Upper primary			
		Intermediate			
		College			