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DIPLOMARBEIT

Titel der Diplomarbeit

Contested Forests

Utilisation of common-pool resources in BRT
Wildlife Sanctuary in Southern India

Verfasserin

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angestrebter akademischer Grad

Magistra (Mag.)

Wien, 2012

Studienkennzahl lt. Studienblatt:

A 057 390

Studienrichtung lt. Studienblatt:

Internationale Entwicklung

Betreuer:

Ass. Prof. Dr. Simron Jit Singh

Acknowledgements

Mein aufrichtiger Dank gilt meiner Familie und meinen Freunden die mich so ausnahmslos während meiner Studien- und Diplomarbeitszeit begleitet und unterstützt haben, mich bestärkten meinem Interesse zu folgen. Meinem Vater für seine gedanklichen Zusprüche, frisches Gemüse vom Acker und ganz besonders meiner Mutter für die liebevolle Teilnahme und ihr ungebrochenes Vertrauen.

Besonderer Dank gilt auch meinem Bruder für die vielen Aufmunterungen et merci beaucoup ta ma chère Teresa!

I am extremely grateful to my lovely aunt Erika Hager, whose incredible encouragement and enduring support was invaluable.

I would like to express my sincerest thankfulness to my supervisor Dr Simron Jit Singh from the Institute for Social Ecology, for the inspirational support and valuable guidance throughout my thesis writing.

In India, I have experienced incredible assistance and advice from Venkat Ramanujam Ramani and Nitin Rai, C. Madegowda and the whole ATREE staff. I am truly thankful for their highly engaged support and for hosting me in BRT. Thank you Shruti for your commitment and help with translation and transcription and for accompanying me into the woods and into my thoughts!

Finally, I am deeply grateful to the people from *Kalyani podu*, I was received with kindness and trust. They let me take part in their life and it is owing to them that I could undertake the field research for this thesis. I extremely appreciate it and am glad to express my thankfulness.

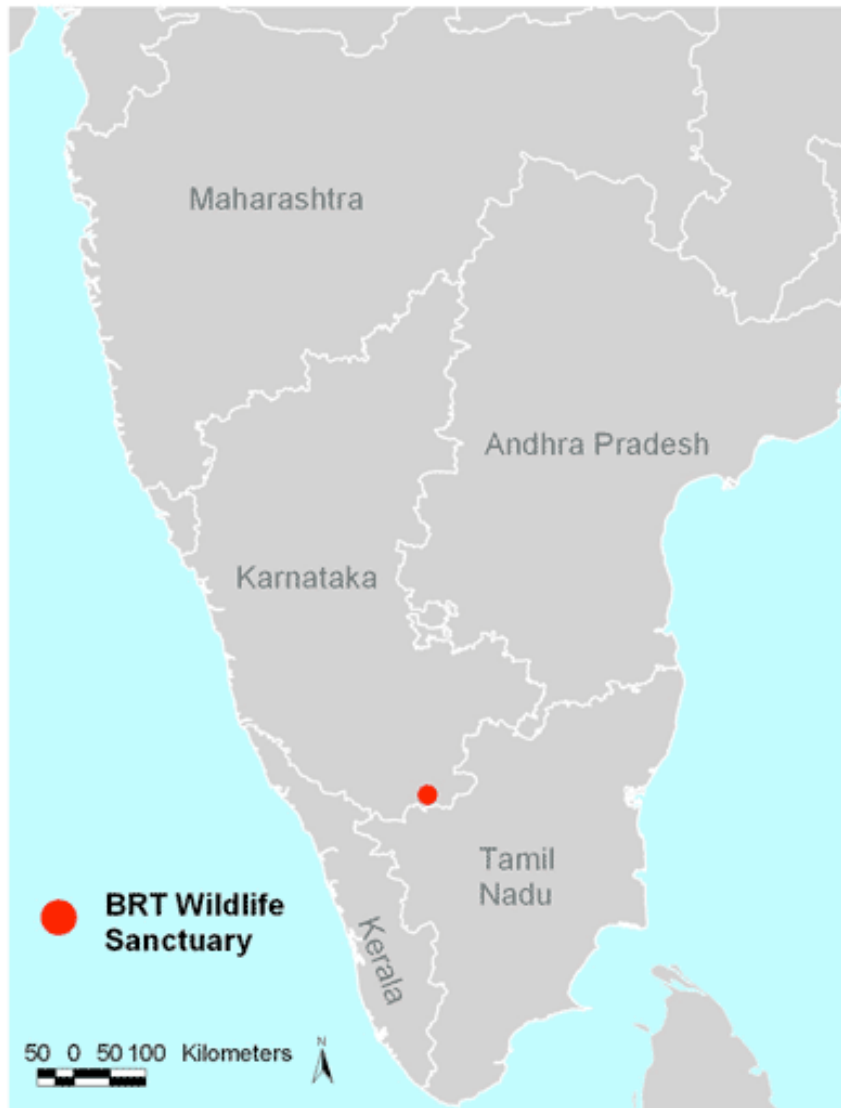


Figure 1: BRT Wildlife Sanctuary (source: ATREE 2012)

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List of Acronyms

ATREE	Ashoka Trust for Research in Ecology and the Environment
BRT	Biligiri Rangaswamy Temple Wildlife Sanctuary
CCA	Community Conserved Areas
CPR	<i>Common-pool resources</i>
CTH	Critical Tiger Habitats
CWH	Critical Wildlife Habitat
DCF	Deputy Conservator of Forest
FCA	Forest (Conservation) Act, 1980
FD	Forest Department
FRA	The Scheduled Tribes and Other Traditional Forest Dwellers Act, 2006
GoI	Government of India
JFM	Joint Forest Management
INR	Indian Rupee
IUCN	International Union for Conservation of Nature and Natural Resources
LAMPS	<i>Large-scale Adivasi Multipurpose Society</i>
MEA	Millennium Ecosystem Assessment 2005
MoEF	Ministry of Environment and Forests
MoTA	Ministry of Tribal Affairs
NCA	National Commission on Agriculture
NGO	Non Governmental Organisation
NTCA	National Tiger Conservation Authority
NTFP	Non-Timber Forest Product or Non-Timber Forest Produce
PA	Protected Area
PES	Payment for Ecosystem Services
PIB	Press Information Bureau, Government of India
SAS	<i>Soliga Abhivrudhi Sanga</i>
SC	Scheduled Castes, an administrative classification by the Government of India

ST	Scheduled Tribes refers to indigenous communities and is an administrative classification of the Government of India
VGKK	<i>Vivekananda Girijana Kalyana Kendra</i>
WLPA	Wildlife Protection Act, 1972
WPSI	Wildlife Protection Society of India
WWF	World Wide Fund for Nature, previously named World Wildlife Fund
ZBGAS	<i>Zilla Budakattu Girijana Abhivrundhi Sangha</i>

1. Introduction

A considerable part of the geographical area of India consists of *common-pool resources (CPR)* in land from which local communities derive a diversity of benefits. Estimates suggest that out of 328 million hectares land area in total over 70 million hectares are so-called non-exclusive resource settings (cf. Chopra and Dasgupta 2002:5). Second to agriculture forest represents the largest land use in India. The official India State of Forest Report 2011 states that India's landmass covers 23.41% forest land (cf. GoI 2011:5) yet due to the changed definition of what officially counts as 'forest cover'¹ this percentage emerges as a matter in dispute (cf. Rajshekhar 2012).

Forests have immeasurable value, they act as carbon sinks, protect biodiversity, provide essential ecosystem services (cf. Nagendra and Ostrom 2011:1) and moreover, contribute substantially to the livelihoods of rural/forest-dwelling/indigenous communities. It is estimated that about 37% of India's rural population depends on forests at least for some part of their livelihood (cf. FES 2011:18). Given the annual shrinking rate of natural forests by 1.5-2.7% (ibid.) and increased difficulties in local resource utilisation due to privatisation on the one hand and stricter conservation oriented restrictions on the other hand, it becomes increasingly important to consider governance issues as well as property rights regimes.

In the debate of appropriate roles for governments, private actors and communities in forest and natural resource management, devising enhanced governance systems continues to be a major issue (cf. Dietz et al. 2002:24f). There are considerable discrepancies in scientific literature and among the policies of different countries on the issues of how to best govern and manage forests and sustain and/or preserve the natural resources. In recent years, an increasing number of in-depth field studies have dealt with the considerable collective action potential of rural communities and concluded that people dependent on the *common-pool resources* may in many cases be best placed to manage these (cf. Wade 1987b; Bromley 1992; Ostrom 1995; Baland and Platteau 2000; Agrawal and Ostrom 2001). However, local self-management requires certain

¹ The Dehradun-based FSI classifies an area as a forests if tree canopy covers more than 10% of a 1-hectare plot, regardless of who owns it, for what purpose and what kind of trees it has (cf. Rajshekhar 2012). This expansive definition is discussed as extremely problematic by many researchers dealing with forests affiliated inter alia with ATREE and Kalpavriksh (cf. ibid.).

framework conditions in order to be likely to form and sustain over time. In India, over 25 million hectares of forests are under the legal jurisdiction of the forest department whereof about one third of the forestlands is open to different kinds of access and use rights for local people (cf. Chopra and Dasgupta 2002:15). In the context of utilisation, rights of use are distributed among a number of *users*, identified, for example, by their membership of a village or a tribe or a particular community (cf. *ibid.*). While the governance of forests in India is mostly centrally organised, the property rights regimes can in fact comprise a multitude of informal customary rights and formally codified property rights. In many cases traditional management systems broke down but where systems and customary practices continue to exist there is considerable difference in statutory and effective recognition (cf. Wani and Kothari 2007:10). If communities are located around or within a designated *protected area*, *inter alia* national parks and wildlife sanctuaries, community members are subject to increased regulations and face difficulties in utilisation.

Given the complex tenure situations that exist in various regions, the assertions over spatial areas often result in conflicts where access to and use of the natural environment is a space of contestation. My research interest revolves around these settings, *user* behaviour towards *common-pool resource* utilisation and the complex local circumstances. Within the boundaries of the *Biligiri Rangaswamy Temple Wildlife Sanctuary* (BRT) in Southern India I undertook fieldwork guided by the following research question

Under what conditions are common-pool resources in BRT available and how is their continuous utilisation facilitated?

Embedded in a social scientific approach and, as the title suggests, I looked at the situational – *Utilisation of Common-pool resources in BRT* – aiming at a positional analysis of the setting. With respect to specifications on circumstance, property rights and other institutions with those historical, ecological and cultural situations (cf. Wani and Kothari 2007:10) the purpose of the research was to understand how people, who directly interact with the ecosystem, relate and respond to the *common-pool resources*. By trying to devise an understanding of *lived practice(s)* and comprehend *complex*

realities the aim is to illuminate situational contestation as inherent to institutional structures in current forest management. The state *rules* and regulations that all utilisation in the wildlife sanctuary is subjected to are taken into account as well as *users* views and perspectives on the *CPR*. Use-related activities in forests also inform *institutions*, the conventions and rules characterised as interactive and mutually constitutive in relation to behaviour (cf. Vatn 2005:101). In line with this classical institutionalist perspective, human behaviour is conceptualised as non-predictive and situated and can only be properly understood in taking into account the individuals socio-psychological, historical and cultural environment (cf. Petrović and Stefanović 2009:113).

My two-month fieldwork was conducted within the geographical boundaries of BRT, a designated wildlife sanctuary since 1974 and a notified tiger reserve since January 2011. Between July and September 2011 I lived in BRT with much appreciated support of ATREE². I drew on an ethnographic research approach based on qualitative social science and worked with people from the forest-dwelling *Soligas*, who are the original inhabitants of the densely forested areas in the region. During my research I gained pivotal methodological insights whereby the question, *how* data and information is gathered, constitutes the primary concern. Through methods of participant observations, ethnographic interviewing, informal conversations and field note recordings, data material was collected that equally finds recognition in the analysis.

Due to preferred linguistic usage and for practical reasons throughout the thesis I will refer to ‘the *Soligas*’ as well as to ‘the community’, which, however, should not deny the heterogeneity and diversity of attitudes among them.

1.2. Structure of the Thesis

The thesis comprises six chapters. After the introductory remarks, the second chapter sets out the most influential forest policies and conservation efforts in India. The historical examination starts with the first Forest Act 1865, which provided for the assertion of state monopoly rights over forests in India and spans to currently adopted

² The *Ashoka Trust for Research in Ecology and the Environment* (www.atree.org).

legislation on conservation and resource management approaches with particular focus on the Forest Rights Act 2006.

Chapter three gives a detailed account on the ethnographic research approach that was adopted during the two-month fieldwork period in BRT wildlife sanctuary. A brief section on the necessary adaption of fieldwork plans due to unanticipated circumstances is included, and reflects the challenges of field research and commitment to first hand exploration. Subsequently, specifications on the applied qualitative methods and methodological and practical difficulties faced during the field research are discussed. Furthermore I examine my role – as *a researcher* – in this context and touch upon structural elements inherent to empirical social research. The last section gives an introduction to the applied methods of analysis based on the content analysis by Mayring.

The fourth chapter reviews the theoretical literature on governance approaches for natural resources, conceptions of *common-pool resources*, property rights regimes and the most influential economic models based on “dilemma situations” drawing on different academic disciplines. Thereby the focus is on local governing arrangements that enhance sustainable utilisation of collectively used resources. Embedded in the framework of *institutional economics*, the thesis explores the complex local circumstances and social behaviours towards environment and natural resources.

The fifth and most comprehensive chapter is devoted to the analysis of the utilisation arrangement in the research setting. By explaining the use of the *CPR* the section draws on the existing categories laid down by the Millennium Ecosystem Assessment 2005³. A particular focus is given to the forest as a source of provisioning and cultural services and on people’s practices in connection to external forces that have an influence. Furthermore, the relational dynamics in terms of control and contact with the department authorities and the observed resource utilisation and the expressed views on the resource conditions are discussed. A particular emphasis is put on the monitoring functions and the implementation of legislative proceedings. The empirical research findings are discussed in the light of the methodological limitations and related to the data gathering process.

³ See: Millennium Ecosystem Assessment. 2005. Ecosystem and Human Well-Being: Synthesis.

The sixth chapter concludes the thesis and sums up the findings, it reflects on the institutional structure of the research setting and the proceeding community rights recognition under the FRA 2006 is addressed.

2. Forest Management and Conservation in India

This chapter reviews the most influential forest policies in India dating back to the colonial period up to the introduction of the recent conservation policies. This historical examination provides the essential background in order to understand the evolved process of exclusion of local people, the changes in management approaches of India's natural resources and the room for decentralized governance attempts.

The total geographical area of India is 3,287,263 sq. km whereof the country's recorded forest area⁴ is 769,536 sq. km being 23.41% of the geographical area (cf. Forest Survey of India 2011:5). The forest sector is the largest land use in India after agriculture, and in remote forest fringe villages about 300 million tribal and other forest-dwelling people depend directly for their subsistence on its natural resource (cf. FES 2011:6). To date, there is nearly 5% of the total landmass being notified as protected areas (PAs), however, the notion that these mainly forested areas are a pristine, empty wilderness is untrue for most places in India. Estimates suggest that in India there are 3 to 4 million people residing inside PAs, and many million more in adjacent areas depending on natural resources from the PAs (cf. Wani and Kothari 2007:11). Forests provide benefits, such as jobs and incomes, produce such as fuel wood, food, fodder and a range of environmental services such as prevention of soil erosion, floods, landslides, maintenance of soil fertility etc. As defined in the Millennium Ecosystem Assessment (MEA) report 2005 four categories of benefits that people obtain from the ecosystem are distinguished into supporting services, provisioning services, regulating services and cultural services (cf. Millennium Ecosystem Assessment 2005:39f). And with regard to official policies and laws governing wildlife and forest conservation it is highlighted that these can have profound and direct implications on the potential of local populations to obtain such benefits or services that are an important source of livelihood.

The major issues related to natural resources that took centre stage in India in recent years are land degradation, forest loss and degradation, loss of biodiversity, air pollution, decline of fresh water resources and climate change (cf. GoI 2009). Programs

⁴ The term (recorded) forest area denotes the geographic areas recorded as forests, thus the legal status of the land consisting largely of reserved forest, protected forest and unclassed forest.

and attempts to respond to the specific problems are complex and widespread. Principal objectives include reversing the rate of forest cover loss and at the same time increasing the area of protected forests, finding strategies to enlarge livelihood opportunities for the local forest-dependent population and strengthening participatory natural resource management initiatives (cf. GoI 2009).

The first codified forest policies introduced by the British colonisers changed the very nature of commonly-used and owned forest regimes, which has been under state control since then. The far-reaching interventions were based on European experiences and enforced on the Indian situation in a manner, which viewed the ecological and physical landscape in isolation from the existing social realities (cf. Sivaramakrishnan 1999:76ff).

After reviewing colonial and post-colonial forest policies, this thesis will give, on account of my research focal point, attention primarily to the ambitious program of biodiversity and wildlife conservation that is pursued in the country. Briefly I will then review the recent developments in regards to tiger reserves in India, which constitutes a supra-category of a protected area (cf. Interview Rai, 20.7.2011). Finally the Forest Rights Act 2006 is discussed, as it marks a radical shift from the country's prior forest conservation regime and aims for greater involvement and control of local communities over forests and forest resources.

2.1. Forest Policy during the British Rule

There exists a considerable in-depth documentation of ancient systems of community forest management in India, that were in place prior to the British rule (cf. Guha R. 1983; Shiva 1988; Guha R. 1996; Poffenberger and McGean 1998; Sivaramakrishnan 1999). Rural communities enjoyed untrammelled customary use of forests and forest produce without interference since no evidence of codified forest laws or state intervention was in place (cf. Guha R. 1983:1883). The forest dwellers depended on their natural habitat in a multitude of ways and the institutional systems that were in place have often worked towards protection of forests and regulation of resource use (cf. Wani and Kothari 2007:10). Under the different types of *customary common property regimes*, the forest dwellers were the beneficiaries of the resources and existence of the regimes was reproduced by a variety of cultural and religious

mechanisms (cf. Guha R. 1983:1883). But traditional boundaries and sacred groves that existed in nearly all provinces of India were replaced and disavowed when the colonial government intervened across different regions and legislation was enforced country-wide.

In his writings dated 1897, Dietrich Brandis, who was appointed first Inspector General of Forests in British India, actually took notice of the many occurrences at sites that were held sacred and inviolate by local communities (cf. Guha R. 1983:1883). Irrespective of local circumstances an Imperial Forest Department was formed in 1864 in order to monitor the previously exercised unlimited rights of users, the unlimited felling of trees and subsequently also effectively enact legislation (cf. Guha R. 1983:1884). By the end of 1865, when the first Forest Act was passed, the assertion of the state monopoly right over forests and the exclusion of forest communities were codified by law (cf. Hazra 2002:20). The previous acts were modified and replaced by a much more comprehensive Act of 1878, which categorized all forests into reserve forests, protected forests, and village forests (cf. Hazra 2002:23). By that legislation all customary rights were severely curtailed in the first two categories and the Act allowed the state to downgrade the customary rights of forests by local people to ‘privileges’ (Guha R. 1983:3884). In the course of colonial expansion the Acts were formative to maximize the revenue for the British and secure future supplies of timber for railway construction, ship building and military purposes (cf. Jewitt 1995:1106).

The Indian forests were viewed as resources for the purpose of appropriation by competing users (Agrawal 2005:29) and recognized forms of knowledge about nature, trees and landscapes were basis for the extensive interventions. In this context Agrawal (2005) refers to *the making of forests* and draws on the special role of numbers and statistics, which further constituted demands for protection and management and also concerns about effects of human interventions (cf. Agrawal 2005:33f). In conformity with the European silvicultural principles and with the focus on sustained commercial timber production, *scientific forestry* was widely implemented. The implementation began with the demarcating and assessment of forests and regulation of local uses of forest produce by the respective FDs. These measures had far reaching effects and the introduction of *scientific forestry* was determinative for later resource management and conservation policies (cf. Agrawal 2005; RLEK 1997; Guha R. 1983).

The colonial government passed another Forest Act in 1927, which consolidates, with minor changes, the provisions of the Indian Forest Act of 1878 and its amending Acts. This Act secured the legal basis for the exploitation and appropriation of forest resources and continues to this day to be the basis of Indian forest legislation (cf. Hazra 2002:27f). There was no provision of people's participation in forest management and alienation and deprivation of local forest dependent people caused sharp reactions, violent conflicts and persisting resistance. During the British period large-scale conflicts between forest managers and local people emerged, ranging from relatively spontaneous outbursts and agitations to more organized social movements (Guha S. 2000; Guha R. 1996). The colonial interventions were at large guided by revenue and commercial considerations whereas ecological aspects of conservation were of secondary importance (cf. Hazra 2002:24; Guha R. 1983:1887). At the same time the period is considered as the beginning of an evolving process of alienation and the breakdown of the symbiotic relationship between many communities and the forests in which they were dwelling (cf. Vemuri 2008:82).

2.2. Post-colonial Forest Policies and the Concept of Joint-Forest Management

After India gained independence in 1947, forest reservations and *scientific forestry* continued driven by the demands of growing industrial, commercial, communications and defence requirements (cf. Jewitt 1995:1006). The pressure on forests increased and post-colonial forest policies showed similarities to the colonial approaches in many ways. The independent government passed India's National Forest Policy in 1952 that added the dimension of increasing the forest cover⁵ up to 33% of the total geographical area and called for the protection of wildlife and fauna by further demarcating forest areas. It declared that village communities should not be permitted to use forests at the cost of 'national interest' and mentions 'rights and concessions' (cf. National Forest Policy 1952) in contrast to the earlier 'rights and privileges' in the Indian Forest Act 1927. In 1976, the National Commission on Agriculture (NCA) formulated that industrial development and the industrial use of forests was given overall priority over

⁵ See (Rajshekhar 2012) for a more comprehensive discussion of problematic forest cover definition.

individual and community needs (cf. Report 1976:32f). The NCA also used the term ‘social forestry’ for the first time, initiated as a step towards easing pressures on declining state forests by planting trees, mostly eucalyptus, on unused and fallow land. The massive program, which was often externally funded by international donors, failed to fulfil its expectations and came under severe criticism for its inefficacy to respond to local community interests and subsistence needs (cf. Poffenberger and McGean 1998:20f).

In 1980 the federal Department of Environment was created, which became the Ministry of Environment and Forests (MoEF) in 1985. It still bears the responsibility for planning, coordination and implementation of environmental and forestry programs. Alarmed by India’s rapid deforestation and the resulting environmental degradation, the central government enacted the Forest Conservation Act (FCA) in 1980, which shifts the focus from revenue earning to conservation (cf. Forest Conservation Act, 1980). The Act generally controls the diversion of forestland for non-forest purposes and the respective state government regulated activities that would potentially affect forest cover, such as building schools, electric poles or bridges. Thus, restrictions on forest users were intensified and penalties for forest offences were tightened. Various intellectuals, academics and organizations who represented forest-dependent communities heavily criticized the FCA, which led to the preparation of a new policy document in 1983, revised in 1987 (cf. Jewitt 1995:1007) that promoted a more people-oriented approach. The FCA was amended in 1988 and all forestland was placed under the jurisdiction of the FD and was thereby transferred from under the Ministry of Agriculture to the MoEF. Thereby the use of forestland for establishing plantations by private parties was prohibited, however, the amendment did not prohibit the FD from undertaking plantations.

In the same year as the FCA was amended the government came up with the new National Forest Policy, 1988, wherein rights and needs of forest dependent communities were for the first time prioritised. The bona-fide use of forests by the communities living in and around forest areas, especially tribal areas, was stipulated (cf. National Forest Policy 1988:4.3.4.2.) and basically ecological and social functions of forests were explicitly put above the commercial ones (cf. Kothari and Pathak 2006:12). The drastic departure from a state-centric approach towards recognizing the rights of tribal

people also paved the way for conceptually different approaches of joint management of forests that gained importance particularly outside protected areas. RLEK (1997) identifies three ways in which people's participation in forest management can be envisioned: Participatory Forest Management (PFM), Joint Forest Management and Community Forest Management (CFM) (cf. RLEK 1997). These approaches distinguish themselves from each other by the degree of community engagement and empowerment in management issues⁶. In 1990 the forest department launched a countrywide program under the label of Joint Forest Management (JFM) and it is one of the largest co-management efforts in natural resource conservation in the world. It had its origins in the early 1970s in Bengal and is described as a forest management strategy under which the FD and the village community enter into an agreement to jointly protect and manage forestlands, adjoining villages and to share responsibilities and benefits (cf. Vemuri 2008:81). Issued by the MoEF as a government order, legal resolutions were passed in all twenty-eight states of India involving 13.8 million families of which 28.75% were tribal (MoEF 2005, cited in Vemuri 2008:82). Yet the performance and ecological outcomes of the state-initiated partnership program are disputed and often remained poor (cf. Khare et al. 2000:88–101). In some cases, new state sponsored institutions worked less effectively than prior existing local structures that had managed forest regeneration autonomously (cf. Sarin et al. 2003:64f). In addition, the JFM program is criticized on the grounds of unequal benefit-sharing (cf. Hazra 2002:7), reinforcing local inequalities (cf. Vemuri 2008:86), limited participation (cf. Sundar 2000:267ff) and the profit-oriented attempts to plant monocultures instead of protecting natural forests for fulfilling the overall biomass and livelihood needs (cf. Lélé 2004:11f).

The decentralisation of some aspect of natural resource management was claimed and, in parts, introduced by the majority of developing nations, whereby the degree it was implemented in law and in practice varies (cf. Ribot 2004:15). Two other Indian initiatives were introduced in the nineties aiming for a more participatory approach to

⁶ In Participatory Forest Management the government is the initiator, it manages the resources, takes the decisions and communities are consulted and participate in various forms, most commonly as hired labour (cf. Johnson 1995, cited in RLEK 1997). Joint-forest management implies a partnership (see detailed above). In Community Forest Management an authority structure is in place that recognises and protects the right of the community to manage manages the forest while the government is passive supporter or observer (cf. *ibid*). For a larger review see RLEK 1997.

management of resources – the Watershed Development Guidelines and the Panchayat Extension to Scheduled Areas Act in 1996 (cf. Chopra and Dasgupta 2002:8).

Also, big NGOs such as the World Wild Fund for Nature (WWF) and the International Union for Conservation of Nature and Natural Resources (IUCN) advocated for the involvement of communities and local participation in the management of the natural ecosystems from the mid 1990s onwards. Thus, the major actors involved in decentralization were international donors, local organisations and central governments. But particularly in the case of governments, who initiate decentralized reforms, it often remains to see under what political conditions environmental decision-making is decentralized (cf. Agrawal and Ostrom 2001:487).

2.3. Biodiversity Conservation in India

Biodiversity conservation has become a common objective over the last two decades. It is debated in international organizations, national governments, NGOs, local communities and businesses (cf. Agrawal and K. Redford 2006:12) and initiatives to protect wildlife and biodiversity are highly complex. The creation of protected areas in the form of national parks or wildlife sanctuaries has been central in conservation policy since the 19th century (cf. Colchester 2004:145). The idea that a certain area of land should be set aside for recreation and protected from other uses because it is valued for the native species that live there, existed already in the first millennium B.C. (cf. Colchester 2004:145). Looking at biodiversity conservation policy in India it becomes apparent that the country embarked on a strategy of declaring a network of PAs to protect the country's wildlife (cf. Mandal, N. D. Rai, and C. Madegowda 2010:368) in which the applied model was strongly influenced by the US model of nature conservation, advocating a separation of wildlife from people (cf. Colchester 2004:146). The year 1972 was particularly decisive, when the National Board for Wildlife framed the Wildlife Protection Act (WLPA) that provides for “...*the protection of wild animals, birds and plants [...] with a view to ensuring the ecological and environmental security of the country*” (The Wildlife Protection Act 1972). The statute provides for the legal establishment of PAs and is characterized by a highly centralized concentration of power, with the exclusive rights of management lying with the forest department. These reservation systems and the subsequent transformation of forest use systems

affected the cultural practices that were embedded in the landscape resulting in erosion of knowledge and practice (cf. Mandal et al. 2010:264).

By 2010 there existed 662 protected areas created in line with the International Union for Conservation of Nature (IUCN) categories, covering 158,509 sq. km, which is 4.83% of the total geographical area. Divided into 99 national parks, 515 wildlife sanctuaries (thereof 39 tiger reserves), 4 community reserves and 44 conservation reserves (cf. WII 2010:89). Thus, from the countries overall recorded forest area 22% is declared as protected area. India also hosts two so-called biodiversity hotspots⁷, the Himalayas and the Western Ghats and to the western boarder of the latter, where my fieldwork was undertaken. Wildlife and forests have been designated as priority sector at the national level and PAs are assiduously promoted as ecotourism attractions, luring large numbers of visitors (cf. EQUATIONS 2007:35f) indirectly calling for wildlife-wilderness area⁸. The WLPA generally established schedules of plant and animal species, outlawed wild hunting or harvesting of the defined species and prohibited logging as well as the practice of shifting cultivation within protected areas. An amendment to the WLPA brought community reserves and conservation reserves, as new categories of PAs and in 2003 punishment and penalties for offences under the Act were made more stringent. Since the WLPA, similar as does the FCA 1980, identifies environmental protection and the recognition of the rights of local communities as mutually irreconcilable objectives (cf. Bhullar 2008:22) the prevailing conservation regime was exclusive to the local people. Indigenous peoples constitute the majority of communities living in or alongside protected areas and were/are therefore disproportionately affected by the imposed restrictions. The resulting socio-cultural disruption threatened not only their economic security but also their livelihood systems linked to the natural environment, their cultures and identities and often failed to conserve biodiversity (cf. Torri 2011:54). But India has gradually started to explore the potential of collaborative approaches in PAs and the role of local communities in the management of government designated areas, and equally, areas managed by such communities themselves, find recognition (cf. RLEK 1997; Kothari and Pathak 2006). Also on the international level the IUCN changed PA classifications and created a

⁷ The concept of biodiversity hotspots was developed in the late 1980s defining bio-geographical regions with a significant reservoir of biodiversity under anthropogenic threat (Conservation International n.d.).

⁸ See chapter 5.1.4.

matrix with different governance types⁹ ranging from strict nature reserves to community conserved areas (cf. Dudley et al. 2010:487). In India e.g. a wide range of community-conserved areas (CCAs) are managed and conserved by local communities but even though some are much older than the state-sanctioned PAs and in better order, they neither receive recognition nor adequate support (cf. Pathak et al. 2007:7). Overall, the decentralisation of natural resources governance became popular also in the context of protected areas. The debates revolve around, co-management and collaboration between local community and governmental executive agencies and private participatory approaches to governance. At its most basic, decentralisation aims to achieve democratization, one of the central aspirations of just political governance (cf. Agrawal and Ostrom 2001:487) and it aims at enabling people to make decisions by which they are most affected and thereby have a say in their own affairs. On the grounds of greater participation and responsiveness to local needs and aspirations, it is advocated on the theoretical grounds that local accountable authorities will make a decision that will benefit local people and at the same time will be ecologically viable (cf. Ribot 2004:11).

2.4. Focus on Tiger Reserves, the case of BRT

In 2011 I undertook fieldwork inside the *Biligiri Rangaswamy Temple Wildlife Sanctuary* (BRT), which was notified as a tiger reserve in January 2011. The subsequent economical and social ramifications on the local forest dwelling community are difficult to predict, however, the recent legislative developments in regard to the special case of tigers in wildlife conservation are particularly relevant.

The country is home to the world's largest wild tiger population¹⁰, which enjoys a special status in wildlife conservation. From 1970 tiger hunting was officially banned but incidences of illegal poaching reported in the states of Madhya Pradesh, Uttar Pradesh, West Bengal, Bihar, Maharashtra, Andra Pradesh, Karnataka, Kerala,

⁹ For a detailed picture of the IUCN Protected Areas Categories System please see: (IUCN online N.d.) However within the limits of this thesis a closer look is only taken at wildlife sanctuaries, notified as tiger reserves pertaining to the research field.

¹⁰ As per the latest tiger census 2011 the tiger population is estimated 1,706, see (cf. WPSI n.d.)

Rajasthan, Uttarakhand and Assam according to the Wildlife Protection Society of India (cf. WPSI n.d.).

The Project Tiger was launched in 1973 and is a centrally sponsored scheme of the Ministry of Environment and Forests (MoEF). It aims at tiger conservation in especially declared tiger reserves divided into a core and a buffer zone similar as in many other PA categories. When the WLPA was amended again in 2006 tiger reserves were specified as a 5th category of PA under the Act, thus it became a legal classification. In addition, the Act provided for the creation of the National Tiger Conservation Authority (NTCA) and the Wildlife and Crime Control Bureau¹¹. Before an area is notified as a tiger reserve, the NTCA is entrusted to give final approval for inviolate areas as *Critical Tiger Habitats* (CTH) on the basis of scientific and objective criteria. According to procedure the informed consent of the village council, herein after referred to as the *gram sabha*¹², needs to be obtained.

To date, there have been 39 CTH notified, located in 17 Indian states, however, there exists controversial statements on the legitimacy of the obtained consent of the *gram sabha*'s as well as a lack of clarity on the precise procedure (cf. Bijoy 2011:39). Also, in the case of the BRT wildlife sanctuary, which is in an interim status right now, the procedure was not adequately followed. The Karnataka state government's notification of the tiger reserve was carried out only with the NTCA's 'in-principle' approval, while the informed consent was disregarded and local consultation with the local *Soliga* population was entirely absent (cf. Interview Rai 20.7.2011; pers. comm. C. Madegowda 20.8.2011). In the rightful procedure of an area gaining the status of a tiger reserve, an initiative is taken by the appropriate state government, which submits a draft proposal to the NTCA under the authority of the MoEF; after the NTCA's in-principal approval is given, an extensive and more detailed proposal is requested from the government and thereafter the NTCA gives a full approval, which authorizes the state government to legally notify the tiger reserve. As stated above before the procedure of a

¹¹ Tiger and Other Endangered Species Crime Control Bureau.

¹² A *gram sabha* is defined as a body consisting of persons registered in the electoral rolls relating to a village comprised with the area of *Panchayat* at the village level according to Article 243(B) of the Constitution of India. Whereas *gram panchayats* are generally recognized as constituting the smallest form of local self-governments at the village or small town level (several hamlets can come under one *gram panchayat*), a *gram sabha* is the legally recognized body of village/hamlet adults and includes every person over eighteen.

notification can be passed, the consultation with the local population is mandatory first and foremost because a notification affects their tenure conditions and access to their source livelihood.

Rai (Interview 20.7.2011) specifies that the forest department pushed for the tiger reserve status in BRT for the last 5 years but it still came as a surprise to everyone [ref. to everyone from ATREE who is working in the area] when the Karnataka government issued the notification. Additionally, he explains that ecological justifications for the tiger reserve status of BRT appear difficult because tiger numbers have increased (cf. interview Rai, 20.7.2011). The situation remains tense and ambiguities that may be the reasons for the decision remain, but the developments should definitely be viewed in regard to enhanced power and control and the increased allocation of funds (cf. Interview Rai, 20.7.2011). There is uncertainty when and to what degree the stricter protection in line with the WLPA 2006 amendment provisions will be implemented and if the eight forest settlements that have been identified to lie in the core area of the CTH, will be relocated. In terms of forest access and decision-making power, the Forest Right Act 2006 has ushered in an on-going process of recognizing rights in BRT in harsh contrast with tiger reserve implementation.

2.5. The Forest Rights Act 2006

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights Act) Act 2006, also referred to as The Forest Rights Act (FRA) which entered into force on 1st January 2008 is scrutinized due to its particularly relevancy for the present case. The Act marks a radical departure from prior existing forest legislation because it challenges the centralised top-down governance approach. For the first time the rights of forest-dwelling people were recognized in Indian Forest Policy formulation (cf. Roy and Mukherjee 2008:299).

In October 1999 the Ministry of Tribal Affairs (MoTA) was created with the objective of ameliorating the socio-economic condition of the tribal people in India (MoTA n.d.:2012). The Ministry prepared a draft of the Scheduled Tribes Bill in 2005 and also framed the rules to supplement the procedural aspects, which brought about much debate and controversy. Tribal rights activists perceived the legislation as a framework to correct 'historical injustice' in opposition to many environmentalists, who feared the

law might lead to deforestation and endanger protected wildlife (Roy and Mukherjee 2008).

The FRA mandates the vesting of 14 kinds of individual and community rights over forestlands and forest produce, regardless of the legal status of the forests. Thus, scheduled tribes¹³ and other traditional forest-dwellers¹⁴ residing on forestlands are eligible to file forest rights claims. As the status report on implementation of the FRA for the period ending on March 31st 2012 shows that the majority of the distributed titles are individual land rights and that community rights provisions are poorly implemented (cf. GoI 2012:2ff).

The MoEF is principally responsible for implementation and in a multilevel procedure that involves representatives from the local level, the FD, the Revenue Department, and Tribal Welfare Department in the different committees. With regard to established PAs the FRA does likewise apply, however, in many states there is the impression that tiger reserves are exempted from the FRA (cf. Interview Rai, 20.7.2011; GoI 2010:128). The FRA mandates a process for determining *Critical Wildlife Habitats* (CWH) inside protected areas constituting a different category than *Critical Tiger Habitats* under the WLPA. The Indian government can notify these defined areas to be kept as inviolate for the purpose of wildlife conservation after open process of consultation by an Expert Committee. And when activities inside a CWH are sufficient to cause *irreversible damage* and whenever co-existence is not an option and after the informed consent of the *gram sabha* is obtained in writing, resettlement packages are agreed to, resettlement can take place (cf. FRA 4(9)(b)-4(2)(e)). But as stated in the resume of the *National Workshop on Management of Community Forest Rights under FRA* in 2011¹⁵, relocation takes place in many protected areas, particularly in tiger reserves in violation of the provisions of the FRA and WLPA (cf. Workshop Recommendations. Anon 2011:10). Furthermore, it is recommended that CWH should not be considered as

¹³ The classification of *Scheduled Tribe* is of administrative standing. As recognized in India's Constitution 1949, the Fifth Schedule (Article 244) provides for the administration and control of Scheduled Areas and Scheduled Tribes. By reason of their disadvantaged condition special protection and certain benefits are designed.

¹⁴ Defined as those living in forests for at least three generations (75 years).

¹⁵ See: National Workshop on Management of Community Forest Resources under Forest Rights Act in Bhubaneswar, 26-27 March, 2011; organised by Vasundhara and Kalpavriksh in collaboration with Oxfam published 'Key Issues and Recommendations'.

necessary human free, but rather free of activities that are violating conservation activities (cf. Workshop Recommendations. Anon 2011).

With regards to biodiversity conservation the FRA fosters the active participation of forest dwelling communities insofar as the right of a community to “*protect, conserve, regenerate or manage any forest or community forest resource that has traditionally been protected*” (FRA 3(1)(i)) is recognized. The FRA emphasises the fact that the majority of forests have been under human use in history and broke new grounds in the debate of control over resources “*by arguing for a layered governance model*” (Lele et al. 2011:107). This approach is extremely interesting and raises questions on concrete institutional arrangements and structures of community management and protection of forests. Which institutions enable collective action? Who gains from the efforts and how are benefits shared? What incentives exist in the concrete local setting to engage in management and conservation efforts? But also, the way in which a decentralised reform shares responsibilities and rights is relevant. As for participatory approaches and co-management arrangements the powers may be shared with local communities but are not clearly transferred. Ribot (2004) argues that those initiatives fall not under decentralisation reforms but are formally contracting arrangements for the purpose of soliciting participation in decision-making (cf. Ribot 2004:25). Although the FRA does not provide for community ownership of forest areas, it stipulates for local authority over management, protection and ensures traditional rights. It may be viewed as a powerful instrument to increase peoples’ stake in forest utilisation and resource management.

3. An Ethnographic Approach to Work – Designed on Qualitative Research Methods

This chapter outlines the adopted social scientific framework in the research process and specifies on the applied qualitative methods. Practical challenges and personal experiences are examined while a reflexive necessity to look at a researcher's determined experience is acknowledged. That being constitutive for the way qualitative social science research is viewed and thought of the chapter finalises with the methods of analysis.

This thesis builds on an ethnographic research approach, thus it is positioned in the field of qualitative social research. Taking into account that the term ethnography can be used in two ways, first as defining a practice and secondly, as a product, namely the written text (cf. Macdonald 2010:60), the scope of the former shall be outlined in order to allow the procedures to become comprehensible. Although there are several differences and tension in the ethnographic tradition, ethnographic research remains firmly rooted in first-hand exploration of research settings. Miller (1997) even suggests that ethnography is “a particular perspective” constituted by certain commitments, such as being in the presence of the people one is to study; evaluating in terms of what they actually do; a long-term commitment, which allows people to return to a daily life, which ideally goes beyond what is performed for the ethnographer and do a holistic analysis, where behaviour is considered within the larger framework of people's lives and cosmologies (cf. Miller 1997:16f).

In this chapter I will report on the applied ethnographic research approach during the two-month field visit from July 26th to September 17th 2011, when I worked inside the *Biligiri Rangaswamy Temple Wildlife Sanctuary* located in Karnataka, in southern India. Emphasis in this chapter is also laid on the personal contact with the people that I worked with and furthermore the general research setting and practical circumstances. I also report on the writings of field notes and other records that were kept during fieldwork, followed by the section on conceptual and practical challenges that I faced. It is deemed to be utterly important to reflect on the role of being a researcher and consequential collection of data. This needs to be examined in order to understand how you position yourself in the whole process. And finally, the crucial issue is besides how

the generation of data occurs, also what is done with it, discussed in the last section on the methods of analysis against the background of the research interest.

3.1.1. Adaption of Original Fieldwork Plans

My original fieldwork plans changed after my arrival in India therefore I find it necessary to begin with giving an account of my own role in the search for a setting. Prior to my departure from Vienna I got in touch with two NGOs¹⁶ with which I initially planned to work with. However my prearranged plan actually underwent several changes and situational circumstances required adaption and necessary flexibility from my side. Some fundamental concerns emerged after I stayed for a few days with the NGOs. From the NGO side it was very clearly indicated on *how* they wanted me to work, *who* I could talk to and of *what* information I could collect. The paternalistic approach was not only directed towards my undertakings but to a great extent also towards the people they worked with, which posed a fundamental problem for me personally and also from a research perspective¹⁷. These observations stem from the first weeks while I was staying with the organisations and I was able to visit several communities living in or close by forests areas¹⁸. I was determined to get in contact with other organisations and institutions thus seeking for alternatives and adapting to the circumstances. I could establish contact and meet extremely helpful and path finding people. First and foremost, I want to mention MPhil Venkat Ramanujam Ramani, who advised, informally supervised and supported me incredibly in regards to methodological concerns and to content issues before and during fieldwork in BRT. The contact was established through my supervisor Dr Simron Jit Singh at the beginning of my concept drafting and fieldwork plan. Venkat also forwarded me to *inter alia* MPhil Arshiya Bose, who was familiar with the research issue and who had worked with

¹⁶ Both NGOs supported tribal communities in forest areas, were located in rural areas one close to Pollachi taluk of Coimbatore Rural district of the state Tamil Nadu, the other one within Kodagu district in the state of Karnataka.

¹⁷ The impossibility to work independently, to decide on a translator myself, to decide on where I could go/walk or to whom I could talk to – since that was already arranged beforehand and the schedule that was prepared for me did not allow for any unplanned/spontaneous incidences – were some of the constraints and problems.

¹⁸ Among other places I visited the *Indira Gandhi Wildlife Sanctuary & National Park*, several reserved forest areas around Anamalai in Coimbatore district in Tamil Nadu and many areas that were most likely unclassified forest in Kodagu district in Karnataka. These visits were arranged by the NGOs.

Kalpavriksh¹⁹ for several years. She linked me up with Dr Nitin Rai from ATREE (see 3.1.1.). Apart from that, I was able to arrange meetings with Archana Arthum from Keystone Foundation²⁰ in Kotagiri, at the hill station located inside the *Nilgiri Biosphere Reserve*. During this in-between-phase I gathered many insights into the overall significance of the issue and discovered in how many different ways this use-related interaction between nature and people was approached. During that time the connection to ATREE intensified and I came back to Bangalore several times. After a number of interesting discussions with Nitin Rai and describing my research interest I was offered the possibility to undertake fieldwork in BRT under the auspices of ATREE, starting 7 days later. Until then, I reconceptualised my concept paper and tailored it to the practical setting working at the ATREE library. Rai worked extensively on and in BRT on ecological and socioeconomic aspects of forests as well as on governance issues over the last 10 years. He forwarded me reports and documents on recent political changes that took place in BRT and also supported my interest in a social science perspective of resource utilisation.

Before beginning with the methodological elaboration, it is necessary to provide a short description of the actual environment where fieldwork was undertaken in order to comply with the claim of contextuality and relevancy of the practical research setting of this area, being a protected area.

3.1.2. Description of the study area – *The Biligiri Rangaswamy Temple Wildlife Sanctuary* and the People’s Practice of Agriculture

The *Biligiri Rangaswamy Temple Wildlife Sanctuary* is located between 11-13’ N latitude and 77-78’ longitude, covering an area of 540km² in Southeastern Karnataka, bordering on Tamil Nadu in South India. The area is rich in biodiversity of flora and fauna with 776 species of higher plants, more than 36 mammals, 245 species of birds and 145 species of butterflies (cf. ATREE n.d.). It was declared a Protected Area in 1974, under the Wildlife Protection Act 1972 and is a confluence of the Western and

¹⁹ Kalpavriksh is an important Indian non-governmental organisation working on environmental education, research and direct action, please see: (<http://www.kalpavriksh.org/>) last access 20.8.2012.

²⁰ Archana is the programme coordinator for environmental governance see: (<http://keystone-foundation.org/>) last access 2.8.2012.

Eastern Ghats providing important corridors for wildlife. The densely forested areas of Yelandur, Chamarajanagar, Nanjangud and Kollegal are inhabited by the indigenous forest-dwelling people referred to as *Soliga*. The *Soliga* are formally recognized as Scheduled Tribes²¹ and amount to around 20,000 people. Approximately 6000 Soligas live in forest villages, called *podus* inside *BRT Wildlife Sanctuary* (cf. ATREE n.d.). Traditionally, the people practiced shifting cultivation and changed their settlements after a lapse of four years (cf. Morab 1977, 18). As the Wildlife Protection Act was *de facto* implemented, the practice of shifting cultivation was totally banned and people were settled into forest settlements, herein after referred to as *podus*. Even though some resource use practices were curtailed from 1974 onwards, many natural resources such as food, fodder, fuel wood and other Non-Timber Forest Produce (NTFPs) are still derived from the forest and constitute an important source of livelihood. Above all many sacred sites, where gods and goddesses are worshipped exist inside the forest and are of cultural importance (cf. Madegowda 2009:68).

The research question principally guided all my undertakings. Because the focus is rather integrative I believe that a comprehensive and elaborate reporting on the initial contact and the people I had the chance to work with is required. I set out on Tuesday, July 26th 2011, on a bus to *Biligiri Ranga Hills*, BR Hills. After almost 5 hours we arrived in Yelandur, the last town before entering BRT and the nearest place for buying and selling any kind of goods, as I found out later. About two kilometres later the bus arrived at the *Yelandur Biligiri Rangaswamy Forest Department* checkpoint. Any vehicle except motorbikes is stopped there and FD officials check the formal permission for the vehicle to enter the Sanctuary. The checkpoint operates from 6am to 8pm and a general driving ban exists throughout the sanctuary during night hours. From the checkpoint onwards it is forest area. It goes uphill and I was told that after passing the gate the bus would only stop at the final stop, which is at the foot of the temple where the main village is located or when it is signalled by someone to stop²². I asked the ticket inspector to stop at the ATREE field station, which is one of ATREEs permanently manned *Community Conservation Centres*, where board and lodging is provided for a moderate monthly rate. I was warmly welcomed by C. Madegowda, who

²¹ See footnote 10

²² To signal to stop a bus is a common practice in many parts of India, however not every bus can be signalled at any place or any time and customs and practices are not figured out easily.

himself grew up in a nearby podu and who is working on his PhD thesis on *'The Soligas Tradition and Culture'*. He introduced me to Rajanna, the field station secretary, Renukamma our enchanting cook, Paramesh a PhD student at ATREE who undertook field research and the other field station staff who came around on the occasion. During the two months that I lived at the field station it was noted that it was also an important place for community meetings and frequently (research) visitors and guests were received (Field notes 2011).

In terms of people's alternate occupations and change from shifting cultivation to settled agricultural practices around the *podus* the distribution of agricultural land in the case of *Kalyani podu*, where fieldwork was undertaken, shall be briefly described here. Some patches of the surrounding *podu* area were agricultural land in use, where *ragi*²³ and maize were cultivated twice a year for subsistence use (Field notes 2011). There were also two small coffee plantations as well as an area mixed with floriculture that are maintained for cash income. Flowers are cultivated for the purpose of hair decoration and also for sale by the children at the temple sites during the weekends (Field notes 2011). Closer to the houses they grow pumpkins and other vegetables for subsistence and people explained that they were collectively cultivated and harvested (Field notes 2011). Regarding the formal distribution of land one woman explained, "*there is nothing like own land, some people have to till it and work on it, then it gives crop yield. This land, there is no record of that*" (Interview 2, 24.8.2011); however, land right titles are repeatedly an issue of concern. The struggle over the land in *Kalyani podu* dates long back and is linked to the changed forms of access to forest. In 1963, the government implemented a scheme for the distribution of land titles to different families in BR Hills as well as in interior parts of the sanctuary (pers. comm. C. Madegowda, 11.9.2011). At that time, families either already engaged in land cultivation or applying for land were allocated small pieces of land for settled agriculture. And although the *Soliga* communities has a long tradition of agricultural practice (cf. Morab 1977) the determination as agriculturalists occurred through this formal procedure. C. Madegowda explained to me during my field research that most families at that time worked for the

²³ *Ragi* is the local name for finger millet, which is an annual plant widely grown in the arid areas of India. It has extremely high nutritious value and is generally in Karnataka consumed in the form of ragi balls – *ragi mudde* – being the staple diet for people especially in rural Karnataka.

temple priest – commonly referred to as *pujari*²⁴, who convinced them to keep their land title documents in safe custody but then unjustly converted them into his name (pers. comm. C. Madegowda 11.9.2011). The situation is highly problematic and already in 1986, when the *Soligas* approached the Deputy Commissioner in Mysore, the *pujari* filed a case and won at *taluk* and the district level of the judicial system. In 2007, the community took up the case with financial support from two local NGOs (VGKK and SAS see 5.1.3.) but it remains unclear whether the land will eventually be legally transferred back to the people from *Kalyani podu* (pers. comm. C. Madegowda 11.9.2011).

In the beginning of August the preparation for *ragi* and maize cultivation started. Whole families jointly process the agricultural land by hand and family members that moved to other *podus* after marriage came back to work on the fields in busy times (Field notes 2011). The fields got harrowed with a plough pulled by an ox, and then got weeded by hand and finally they sowed the *ragi* or maize seeds. During that time, when people worked on their fields it turned out to be a good time to approach them and have a conversation and find out more about how they related to the forest.

But prior to collecting and analysing data at the very begin of the research process the issue of how to find access to the field and to those persons and practices that are of particular interest, needs to be addressed. Since entering the field is a complex process of locating yourself and being located in the field and is linked to the kind of insights one is granted I attempt to enlarge upon these issues here below.

3.2. Engage with People from *Kalyani podu*

The first stage of fieldwork is pivotal. First of all, it is decisive whether the self-assigned task, namely to witness and participate in everyday activities of an unfamiliar community and thereby collect data, can at all be undertaken. The questions of: “*How can the researcher win over the potential participants to collaborate and how is it achieved that not only people express their willingness but that this also leads to concrete data?*” (cf. Flick 2009:143) deserve attention also in regard to the underlying matter of representation.

²⁴ A *pujari* is the name of a Hindu temple priest that usually belongs to the Hindu Brahmin caste. Furthermore *pujari* is an Indian surname with the meaning of “priest”.

A total of 62 *podus* are spread throughout the BRT Sanctuary, whereof seven are located within walking distance to the field station. To work with one of the surrounding *podus* was a pragmatic decision as well as a deliberate pragmatic constraint²⁵. The surrounding village settlements were diverse in size, integration into markets and location. Guided by the field assistant Krishnan I visited all seven places before deciding on the setting.

Neither the *podu* nor the forest area can be considered as a fully public place. The appearance in person in a *podu* during the visits was conspicuously noticed because usually only a circle of acquaintances (including neighbours, relatives), forest department employees on their daily rounds, researchers on short-term commitment accompanied by one or more field assistants (however these visits are normally announced in order to have people ‘ready’) or Jungle Lodge tourists guided by an employee enter these areas. Now *our* appearance attracted attention of all because we appeared unannounced, there was no obvious motive (I carried no camera or questionnaire on me), and it seemed that the colour of my skin caused shyness and laughter. After walking into a *podu*, Krishnan insisted introducing me to one of the *tribal leaders*, which were known to him. Krishnan seemed apparently perplexed when he found out that I would not want to begin with interviewing immediately and that I did not intend to work with a questionnaire either. He repeatedly stressed that “... *I must tell the people what I need [to know] from them [...] otherwise I would not get what I want*” (Field notes 2011) which puzzled me equally. I had no clear vision of what lay ahead and rather asked myself what I would be able to understand, how I would be able to write about in contrast to what *I wanted to get*.

Kalyani podu was one of the last *podus* that I visited and I will explain in the following section why I decided on it. The dwellings zone can only be reached on foot on a field path along a lake and is thus not directly connected to the main road. Aside from being the smallest *podu* with only 12 families, it was the only one without access to electricity or running water. The surrounding land, although not privately owned by the local people, is used for subsistence agriculture, for floriculture purpose and as grazing land

²⁵ The administrative time and efforts for additional permission to work in an interior part of the forest would have been enormous and possibly could have delayed the beginning of fieldwork for weeks. Secondly necessity and availability of driver and jeep would have limited my autonomy to organise my time and would have been virtually impossible to finance privately.

for livestock. When we entered *Kalyani podu* Krishnan introduced me to an elderly man, to whom he referred as one of the two tribal leaders. A few people gathered and asked Krishnan what this was all about. He explained that I was a student from Austria doing my Diploma thesis and that I was interested in their forest resource use. He also mentioned that I would have no questionnaire and that I stayed at the ATREE field station for the upcoming weeks. They seemed obviously unimpressed by what he said. I looked around and tried to make eye contact with some of the people when I realized that the idea that people were looking forward to participating in *yet another* research project was intrinsically naïve. Besides, people clearly were busy with their everyday affairs and there is usually no-good reason why they should embrace an outsider (cf. Rock 2010:34). When I asked what time they usually went with their livestock for grazing into the forest one woman suggested that I could join her one day. However, when they came to know that I would accompany them on my own, thus without someone translating, several people raised concerns that it would not be possible because we would not be able to communicate²⁶. And they all agreed it would be too dangerous for me to accompany them due to wild animals²⁷. At that point only the children seemed pleased about my intentions and smiled in a shy way. The decision to engage with the people from *Kalyani podu* was mainly determined by the fact that all people we spoke to inside the *podu* said that they were utilising and actively benefitting from the forest resource themselves in comparison to some other *podus* where most people went out for work. Secondly, it seemed feasible and the offer to accompany a group of woman contributed to making the decision. I was convinced that it was crucial in my case to participate and observe in the first phase un-chaperoned in order to gain trust and rapport and decide on space and time sampling independently.

3.3. Participant Observation

Participant observation comprised along with the ethnographic interview the core method in the undertaken ethnographic fieldwork. Different conceptions of observation can be found in literature, however, all approaches stress that practices are only

²⁶ My knowledge of Kannada, which is the official language in Karnataka, was very little and limited to a few sentences and phrases.

²⁷ 'Wild animal' was used as synonym for elephants, tigers, leopards, wild boars and gaur that are popular inside the wildlife habitat.

accessible through observation, in contrast to interviews and narratives that merely make the accounts of practices accessible instead of the practices themselves (cf. Flick 2006:215). Furthermore, observed practices were essential for a deeper understanding of what people related to in informal conversations and interviews. Burgess (1987) states that participant observation is not merely a method of conducting field research but also a role that is used by the researcher, who is at the same time the main instrument of data collection (cf. Burgess 1987:45).

Data was gathered by participating in people's natural life setting and coming to particular places or forest areas. In other words I attained knowledge of resource use practices and concrete activities by experience and was aware that this is only possible in the first place if people consent that I can take part in their daily activities. In this following passage I report also on selection of research site, time, people and events.

Since *Kalyani podu* was only about 2km away from the field station I walked to the site. I usually left in the morning between 8am to 11am and paid attention not to return later than 5:30pm because many wild animals come out to the lakes along the main road when dusk sets in. As noted above, my main aim in the beginning was to establish good rapport with the people, which I hoped would lead to their consent to take me with them when going into the forest. Despite that, the overall oral permission by the tribal leader to take part in the daily practices of the people, I was aware that I could only undertake fieldwork in *Kalyani podu* if people individually consent to take me with them. From the beginning I exercised myself in discretion when I explored the surrounding area and wandered around. I got the general impression that clearly not all people were pleased to see me, and it seemed that most men tried to avoid me. Perhaps this was due to the unorthodox approach to work without a (male) field assistant, and furthermore being a woman moving around alone made many people I met uncomfortable. However, the people from the *podu* knew that I claimed an interest in their forest utilisation and being related to ATREE has likely facilitated my access to the setting. Already on the second day there was a group of three women, who went for firewood collection and grazing with goats and sheep. They waved and called "banny banny", signalling that I should come. It seemed as an auspicious beginning. Just before we set forth the woman called for three boys around 10 to 12 years old and one middle-aged man who joined us, on that day, too. The herd of goats and sheep that grazed on the lower grassland was

rounded up and we went in single file on one of the countless dirt tracks into the forest. Attentively they kept an eye on me and never came too close.

Over the weeks more and more people agreed that I could join them and mutual confidence developed. At times no one took the herds for grazing and the animals were kept at the lower grassland close to the hamlet, so I stayed there with them. I became acquainted with many people from the *podu* and it appeared that my presence was less distracting after some time. Mostly women took pleasure in teaching me Kannada, or dialect words for different sorts of trees and animals and my knowledge of the local language improved a lot during the first 4 weeks. When they inquired about my native country, family and relatives the conversations were characterised by guesses and relying on gestures. Naturally, I became emotionally involved with the social world that I studied “*that provides a resource for understanding the social world*” (Grills 1998:14).

Different phases can be distinguished during the field research. First, as I immersed into the entirely new *setting* (into the *lebenswelt* of the people living in *Kalyani podu*), broad areas of interest namely nature and their utilisation of the forest resources guided my observations. Observed events were strange, remarkable and thrilling to me; my notations were detailed and at great length. This phase was formative but more *descriptive*. I gained greater orientation in the field and responded to local conditions, developed more concrete questions and redefined problems. Followed by a phase of *focused observation*, which opens into *selective observation* used at later stages and towards the end of the data collection (cf. Flick 2006:220f). In this case it implies filtering and looking systematically at processes and problems that are relevant for the guiding research question. As occasions demanded I also decided on field times more flexible and on two days I left already at 5:30am as not to miss the people that were going to collect lichen, a commercially used NTFP. Unfortunately, the attempts to attend lichen collection were to no avail and it remains unclear if lichen was actually collected during the period at all.

3.4. Field Note Writing

Participant observation involves not only participating and investigating a specific setting but also *producing written accounts and descriptions* that bring versions of the

lived experience to paper (cf. Emerson et al. 2010:352) and ultimately constitute, aside from recorded interviews and conversations, the *data* of fieldwork. I noticed that writing in the presence of the people created moments of distrust, activities or conversations were stopped or people appeared unsettled when I took out my pen, thus I avoided open noting. I wrote field notes immediately after returning to the field station. The notes contained detailed place and time specific notations, comments, hand drawn maps with estimates of distances in kilometres²⁸, accounts of chance meetings, re-narrated talks and reports of exceptional events as well as a collection of symbols and abbreviations. Writing of field notes is considered as a process of representation and construction and the produced texts are inevitably *selective* (cf. Emerson et al. 2010:353ff). But my concern was not only steeped in what to take note of but also in how to write down the observed events and lastly how to treat the notes in the process of producing a finished text (cf. Emerson et al. 2010:365). My original unsystematic field notes were reordered and revised and excerpts serve as source for analyses. The writings also include practical and methodological questions and I took note of issues that I wanted to look into more in-depth. For my personal impressions of situations, emotional reflections and involvement I kept another journal, since it has little relevancy for the research question. As a whole the records are not standardized and hand written notes as well as writings on the computer were “produced”. There are different conceptions on how the process of capturing and recording of observations in ethnographic writing is presented, for Clifford “ethnography translates experience into texts” (Clifford 1986:115), whereas Richardson finds the core of ethnographic writing as “narrating” (Richardson 1990).

In order to allow coherence between narrations and insights from the interviews as well as findings through participant observation the writings were incorporated into the finished narratives relying on an *integrative strategy* (cf. Emerson, Fretz, and Shaw 1995:179) allowing flexibility.

²⁸ Cartographical mapping was neither feasible nor necessary.

3.5. Conversations and Interviews

Informal conversations and other forms of interaction and dialogue that occurred during fieldwork provided important insights and allowed me to understand observed behaviour. Without doubt my limited comprehension and capability to speak with the people in their dialect in Kannada proved to make my undertakings much more difficult. Aware of the obstacles resulting from the obviously position as outsider I was fortunate that my primary work was based on observation. The first exploratory phase also contributed substantially to the way the people met me and eventually consented to being interviewed at a later stage.

I noticed that women became more comfortable with me being around; frequently they shared their flour or rice with me and also tasted some of the lunch I brought with me. Generally men would still not look me in the eye and tried to avoid meeting me also inside the forest, hence often I could only see what they brought, but not where they got it from etc. I was concerned about the alteration of a conversational situation caused by a male translator (from outside) and I made every effort with the help of the internal ATREE network to find a female translator. Fortunately I got a notification from Shruti responding to the YETI platform²⁹ announcement. Shruti being about my age had just graduated in Biotech from Bangalore University and wanted to gain some working experience in another discipline. Kannada was Shruti's mother tongue however she grew up in Dubai and only returned to Bangalore for her university studies. It was great to find someone young who was not personally involved in the issue, but nonetheless committed to a wholly respectful encounter with the people.

We approached *Kalyani podu* on August 22nd 2011 for the first time together and she worked with me for the next four weeks. I think it was extremely important at that point to resolve some questions that people from the *podu* had³⁰ and thereby accounted for my on-going attempt to participate on site and to join them whenever possible. During regular field visits conversations and informal talks with different people arose, some being short-spoken, others felt comfortable with explaining their views. Conversations

²⁹ YETI standing for Young Ecologists Talk and Interact is a conference for ecology students and researchers in India. (<http://www.meetyeti.in/>). Last access: 10.8.2011.

³⁰ Questions were raised on *how long I would stay, why I chose to work with them, what I got out of it and if I would come back to visit them after I finished*;

happened on site, spontaneous and directed towards understanding of the observed and characterised by interested curiosity, in contrary to standardised inquiries.

Shruti also translated what people talked about to each other e.g. when deciding on which particular forest area to go to or when arguing about *if* we could join them, which provided contextual insights. These remarks were added on to the field notes. When a narrative lengthened, word-by-word translation became demanding for both sides. Thus, when a person showed willingness to have a deeper conversation on a subject matter I asked for permission to switch on the tape recorder. Then the consecutive translations were brief and Shruti summarised the responses in order to be able to react and adapt to things that were expressed. When exploring on the *lived practice(s)* in the *common-pool resource* situation my aim was to gather people's own interpretation of their experience and most importantly recognize their value (cf. Atkinson et al. 2001:370). I am building on Heyl (2001) who conceives ethnographic interviewing as to:

1. "listen well and respectfully, developing an ethnical engagement with the participants at all stages of the project;
2. acquire a self awareness of our role in the co-construction of meaning during the interview process;
3. be cognizant of ways in which both the on-going relationship and the broader social context affect the participants, the interview process, and the project outcomes, and
4. recognize that dialogue is discovery and only partial knowledge will ever be attained" (Heyl 2010:370).

This applies also on how I received and handled or so to say used the gained knowledge and experience. All in all, I conducted 16 extensive unstructured interviews and had numerous informal talks with people from *Kalyani podu* that I joined in their forest utilisation. The sample was not finalized in advance but was guided by the attempt to obtain an understanding of practices, values and circumstances of the individuals and the surrounding natural resources being studied. In line with Flick (2009) the selection is governed by the relevance for the topic in contrast to representativeness (cf. Flick 2009:124). All interviews and informal talks took place in or around *Kalyani podu* or at surrounding forest areas. The interviews were centred on different areas including: their

access and utilisation, the significance of natural resources; the frequency of access; estimation of resource condition and changes over time, how it was monitored from inside or outside (=attributes/changes) and knowledge of other people's usage and access; attribution of control and contact with FD, conflict situations and disagreements; support for facilitation and utilisation; (=relational). In the course of the research process the interview structure was flexible and not standardized.

Transcriptions were made using the transliteration software F5³¹ immediately on the evening after the interview or on the next day. There was only one occasion when taping was objected by a person so I made interview notes taken from memory. The transcripts provide a detailed protocol and elements such as laughter, harrumphs, interruptions or the like were noted down due to assumptions that it might be of importance to the interpretation (cf. Lamnek 2010:363).

Furthermore I conducted three interviews, which can be categorized as explorative and systematizing expert interviews (cf. Bogner and Menz 2005:37f). The method was used to get orientation in an unknown field and gaining access to exclusive knowledge (ibid.). I conducted one long interview with Nitin Rai at the ATREE main office in Bangalore before I started fieldwork in BRT on 20th July 2011. His insights on the recent political and judicial changes and especially on the BRT tiger reserve notification provided useful context knowledge. Then I also had several informal conversations with him on the phone (when I was staying in BRT) or at ATREE. Then Arshiya Bose agreed on an interview, carried out at Koshi's Café in Bangalore on July 25th 2011, particularly relevant were the elaboration on the FRA procedures and on why BRT is a special case in the Indian protected areas landscape. Secondly from ATREE I could interview Dr Siddappa Setty taking place on September 10th 2011 at the BRT field station focusing on participatory resource monitoring of NTFPs inside BRT and his long-standing working experience there. All three interviews were held in English. Lastly an interview with Mr. Prabhu, the secretary of the BR Hills *Large-scale Adivasi Multi-purpose Society* (LAMPS) was carried out at the LAMPS office on 13th September 2011. This was conducted in Kannada translated and transcribed by Shruti.

³¹ F5 is a free software downloadable on: <http://www.audiotranskription.de/f5.htm>. Last accessed 2.1.2011.

3.6. Conceptual and Practical Challenges

This section focuses on some generic problems and ambivalences that I encountered during the process of the ethnographic research. In brief I will examine challenges and the practical implications that complicated the gathering of data and thereby disputing the notion of fully obtaining access to the experiences and attitudes.

All ethnographers must invariably contend with the twin problems of access and time (cf. Smith 2010:226), which shape the way and occurrence of how and what is obtained. Being aware of the fact that an eight weeks period of fieldwork when taking an ethnographic approach to work is genuinely rather short. It left me with a narrow margin for unexpected difficulties while at the same time I found it a feasible approach when looking at the complex local circumstances within the scope of the thesis. The level of trust that is required naturally needs time to be built up and thereby also enables the establishment of a personal relationship with people that the ethnographer works. I regard the emotional involvement and also my personal attributes not as aspects that need to be hidden, but rather as necessary attributes to be aware of and as constitutive and helpful in the analysis.

Another question in terms of time appeared challenging. As it is the case with forest, utilisation varies greatly with the season and access is determined by many factors. Hence, how can one get to observe *the typical situation*? Or is *a typical situation* only a construction and that is not at all procurable? It is certain that the findings cannot be understood as complete and positive accounts of history and practices of the group, but instead the findings provide context and reveal uncertainties in the *common-pool resource* situation. As for validity, the interviews with Nitin Rai, Siddappa Setty, Arshiya Bose and Mr. Prabhu aided to place the collected data into the larger temporal framework.

The access to *Kalyani podu*, as discussed above, was formally established through Nitin Rai via ATREE, while the actual consent to participate ensued from maintaining a relationship with the people in the field. Yet the problem of access plays out simultaneously on the level of where and how participation is allowed. The role as a stranger, a guest, a member of a foreign country (cf. Teuscher 1959:251) or an ally also predetermines the access. I argue that situations, events, and activities were not actually directed by my presence, but it is difficult to evaluate the overall effect of my presence.

It appeared that there was a subtle opposition for me to attend some events such as the worship ceremony, called *pooja* before collecting any NTFPs. People repeatedly invited us to attend *pooja* before collecting lichen, however, it remained unclear when it actually took place.

What I found remarkable was their view about the relationship to me as a researcher. The statement that one woman mentioned to Shruti in the 5th week of fieldwork reveals a certain uneasiness “*at first we were scared of her, we did not know if we can trust her or if she will hurt us*” (Interview 1, 23.8.2011). Being seen as someone who *can* hurt reflects the obvious unequal power relationship between us and the invisible dividing line. That stands in contrast to what the same woman said a little later in the conversation “*we know her, she came with me many times, she roams like us, she squeezes like us, she is like one of us*” (Interview 1, 23,8.2011). Because unequal power relations appear to be inherent in ethnographic accounts it is of fundamental importance to acknowledge their existence. On the one hand because it can create a challenge during the data gathering process but also because it reveals the underlying structural elements on which research is based on.

Difficulties in access or participation in activities was basically only experienced on exceptional occasions like, e.g. for *Ganesh Chaturi festival* which is one of the most important religious festivals starting September 1st 2011. People from the *podu* started to ask what we were doing for *Ganesh Chaturi* two days before the festival started. When we said that we would continue and we would stay and hoped to celebrate in *BR Hills*, people expressed their concern that we could not visit *Kalyani podu* during those upcoming three days (that were the most important of *Ganesh Chaturi*) and told us that we should go somewhere else, into a town or city to see festive and colourful parades. They reasoned that nothing happens, nobody goes to the forest and nothing can be seen so we should have our own celebration (Field Note 2011). C. Madegowda also recommended leaving the place and the people from the *podu* during that time and respect their wishes. Accordingly field visits were interrupted.

These examples strengthen the view that I was regarded as an outsider, also evident in language, and supported by the fact that I visited and not lived there. It seemed that people refrained from bringing certain issues to my attention during conversations or at times were reserved to give a response. During a conversation a person would

sometimes hesitate to say anything or just turn away and sometimes also walk away saying, “*there is much work that needs to be done*” or “*I don’t know, I don’t understand*” (Interview 7, 30.8.2011). In the unstructured interview situation, avoiding answers or giving evasive answers on certain issues is recognized and forms part of the findings. Consequently, this made it practically unfeasible to enquire deeper into some aspects or topics that were avoided and naturally to some extent it limited my scope. On the one hand this may have to do with the sensitivity of certain topics (conflict situations with FD) and the insecurities that were mentioned to cause anxiety on the part of the interviewees. On the other hand, the reserved attitude may have to do with the ways of how people reflect on their behaviour by habit, stimulated by the western education system formed by *institutions* and forming them. In other circumstances constant reflection may take place much less and one could refer to the matter as *reflected behaving*. Attempted explanations for more concrete underlying reasons are discussed on the basis of concrete cases in the findings.

A substantial obstacle that curtailed my ability to fully obtain access to the *setting* was my inability to speak the language and not being familiar with the underlying logic of words, signs and symbols people used. At times, I struggled with comprehending basic cultural rules as well as Shruti sometimes struggled with translating the recorded interviews into proper English. During a conversation or interview individual answers were paraphrased and their meaning checked in order to fully comprehend what was expressed. In some situations inconsistencies in narrations or experienced uncertainties and ambivalences posed a challenge. These are included and recognised in the findings and were not ignored.

There are also respectable differences within societies in respect to the meaning of particular words in many sub-groups; in this particular case, people spoke a unique dialect and used specific names for numerous plant species and their habitat (cf. Madegowda 2009:68). Certain words could not be translated literally, but only unfolded the true meaning when embedded in a story, for example, and linked to the origin of the word. Also, ambivalences in regard to what I observed and what people said illustrate ambiguities in the language. The reflections on the lack of knowledge of the language forms a severe criticism directed towards myself. I believe that the success in using an ethnographic approach is significantly connected to the possibility to communicate and

to gradually enter their world linguistically. The strongest argument for the chosen approach is on the one hand the significance of data collected through observation. And on the other hand, the firm effort to learn about a particular aspect and gain first-hand information about it in order to develop a new perspective on *this common-pool resource* situation and to generate new understandings in commitment to ethical claims.

3.7. Reflection – Being a Researcher

The practice of self-reflection on the *self*-assigned role as a researcher was an important dimension during and after fieldwork. The question on what data is actually collected, and written down in field notes, is driven by the researcher, his/her research interests and affected by practical reasons and by constant choices³² that are made in the setting. And then there are the personal expectations that lead, often unconsciously, to a tendency where one sees what one might expect or hopes to see in the collected data, which consists of subjective views and subjective experiences. Thus, apart from the subjectivity of the *researched* is the subjectivity of the researcher, which is also part of the qualitative process. Biases, irritations, and also expectations need to be uncovered and explicitly acknowledged. Only through an on-going process of reflection, misinterpretations, distortion, and hastily valuations can be avoided and meet the pretension of intersubjectively comprehensibility. The examination of expectations and biases also helps to remain committed to openness in the field while impressions and the researcher's reflection on observation becomes part of the interpretation (cf. Flick 2006:16f).

The role as a “white female Austrian” researcher is also related to the question of where I could participate, who would agree to talk to me, what information I could access and what was restricted. Since it was still unusual in India for a woman to travel unaccompanied, breaching the orthodox approach was not only an issue of concern for the people from the field station but also for the people from *Kalyani podu*. Situations in which I interacted with the people and joined them inside the forest were sometimes characterised by their discomfort and being worried that something would happen to

³² Where do I go, to whom do I speak, what do I take notice of and what do I note down;

me, or that I would not be safe. Starting from little scratches from lantana³³, blisters or leech bite marks, it appeared that people felt really responsible for it. It seemed that some people found it very upsetting that I had to take on this hardship of walking so much with them and under the given conditions. In saying that my undertakings were self-assigned and were carried out under my own responsibility (albeit under the auspices of ATREE and C. Madegowda who is held in high esteem) often it appeared that they did not believe it (Field notes 2011). Being accompanied by Shruti, who translated, altered the form of participation, advancing it because informal meetings could be scheduled, people became less worried because we were together but also changed the way in which participation was allowed. Suddenly, it was two outsiders that visited the *podu* and joined for grazing, which attracted more attention. Also regarding the question of “*what I will do with the things I see*” and “*how it would help me in my life*” and “*what I could do for their situation*” came up. Of course these notions (they should be understood as exemplary for the dilemma) concerned me and I tried to handle it with care and treat the *legitimacy of the research* in the field notes. First I think it is important to consider the question of *how do you present the collected data fairly* in regard to the people’s situation. And secondly, to point at my position as a student, to be entirely honest about how I came to find out about BRT, as well as about my intentions and aims. In some respects the uncertainty as to approach and self-positioning initiated the reflection on and possible improvement of the own behaviour patterns and methodological approaches. Hence, it should be taken into account.

3.8. Methods of Analysis

There are several analysis methods in qualitative social research depending on how the researcher approaches the collected data but even more on the guiding research question and its theoretical framework (cf. Lamnek 2010:462). As it is evident from the description of the applied methods, the data gathered in the research process comprehends interviews, field note writings and informal conversations. They all find equal recognition in the analysis.

³³ *Lantana camara* is a species of flowering plant. It is an invasive species native to the American tropics.

The method in analysis is oriented on the qualitative-interpretative principles of Mayring's (2010) content analysis. Thereby the material is treated in a way that allows for recognition of the situation in which the written communication was produced while focusing on the manifest content of text.

The interviews were first defined and subsequent excerpts were determined in light of the research questions. In a second step, the material was rearranged and focus subject matters in regards to forest utilisation that became apparent were noted. On the basis of direct statements made in the interviews as well as in informal conversations inductive categories were derived (cf. Mayring 2010:75). These categories were tentative and continuously revised in the content analysis procedure. The gathered data material was then realigned along the main categories and supplemented with secondary literature including *expert* interviews, informal talks and notes from a presentation that provided useful context-knowledge. After the first allocation of the material under the categories I reverted again the original transcripts and field writings in order to ensure that understanding corresponds to its genesis. Observations and remarks were available through field note writings and were attributed and integrated in the findings section by an *integrative strategy* (cf. Emerson et al. 1995:179) and the procedure could be referred to as "explorative contextualisation" guided by empirical research.

Due to the sensitive issue of forest utilisation I decided to render the interviews anonymous and numbered them consecutively.

4. Theoretical Framework

The following chapter reviews the literature on institutional approaches to governance issues in common-pool resource situations. While political responses to forest degradation and destruction were developed and implemented on different levels they are often based on an envisioned social dilemma situation. Consideration on institutional arrangement that enhance sustainable utilisation of resources and regulate environmental over-exploitation are especially focused on.

This thesis is embedded in the institutions' framework. Institutional economics has developed as a response to the standard neoclassical economic theory and tries to understand the role of institutions in shaping human behaviour and economic outcomes. From a classical institutional perspective the human being is depicted as a product of the social conditions under which he/she lives and the individual's choices as being influenced by a concern for the collective (cf. Vatn 2005:2). Given this overall framework, particularly the approaches to collective action and governance of natural resources are looked at. Drawing on works of different scholars associated with institutional economics, the analysis of governance and especially *common-pool resource* situations are of utmost interest.

This chapter is organised as follows: the beginning section reviews the literature on institutions and analyses institutional solutions in the governance of natural resources. This is followed by an outline of the classification of *common-pool resources (CPR)* and consideration of the problem of overuse. For instance, while it is clear that forests are a *CPR* with regard to climate change and biodiversity loss, forests can also be considered a *CPR* in terms of other benefits, such as firewood, fodder, or other intangible benefits they provide to rural people who directly interact with the landscape. This chapter also discusses the key economic models used in natural resource management – *the tragedy of the commons*, *the model of collective action*, and *the prisoner's dilemma game* – to highlight the collective action problems in *common-pool resource* situations. All three models are founded on a deterministic description of human behaviour, they find wide recognition in scientific work on natural resource governance and constitute opposites to social scientific understandings of human behaviour as discussed below. Moreover, as *CPR* can be managed under different

property rights, section 4.4. considers four commonly recognized types of *property right regimes*. However, in situations of *institutional discrepancies*, when resource regimes are uncertain, such a categorization also becomes clouded. This then may contribute to the difficulties of individuals in utilizing the multiple products from for example a forest³⁴ that are important sources of livelihood. In many of those situations, competing claims over *CPR* are asserted (cf. Agrawal 2007:113) and institutional arrangements are required that sustain resource utilisation over the long run and facilitate collective action. There are well-documented examples where humans have maintained long-term sustainable resource yields and created institutional arrangements that regulated access, use and management. In the final part of this chapter a commonly agreed set of variables regarding the likelihood of formation of self-governing associations is introduced. And this is followed by a review of different characteristics of institutional arrangements that enhance sustainability in use of the environment (Ostrom 1995).

4.1. An Institutional Approach – Choices on Environment and Desirable Solutions

Institutional economics has been an influential source of ideas for understanding human behaviour towards the natural environment and explaining the role of collective action and environmental outcomes (cf. Paavola and Adger 2005:353). Guided by the research question an institutional approach is taken to understand the complex local circumstances in the research setting, including patterns of resource utilisation – a practice that accumulates individual’s behaviour and then the devised strategies aimed at sustaining resource utilisation – are analysed, emphasising the institutional, physical and external factors. This shall also be connected to the theoretical contributions on effective environmental governance institutions. It is important to note that the way in which institutions are defined is linked to the underlying perception of human behaviour that varies across the different positions within institutional economics.

³⁴ Such as firewood, fodder or other Non-Timber Forest Products.

Broadly speaking there are two traditions in institutional economics - the *classical* and the *new* that exist alongside. Both approaches are distinct but do contain some similarities and relevant concepts that are briefly reviewed.

New institutional economics has informed a significant body of research encompassing economics, political science, sociology and anthropology. Particularly the contributions on local common property arrangements and effective environmental governance institutions (Wade 1987b; Bromley 1992; Ostrom 1995; Baland and Platteau 2000; Dietz, Ostrom, and Stern 2003; Agrawal 2007) provide important theoretical insights and a frame of reference for the research purpose. Most scholars associated with *new* institutional economics follow Douglass North's perspective on institutions, as "*the rules of the game in a society, more formally, are the humanly devised constraints that shape human interaction*" (North 1990:3). Institutions in this respect are recognized as constraints. Both as consciously constructed constraints in formal rules (including constitutions, laws and property rights – explicit, codify-able) as well as informal norms (including sanctions, taboos, traditions, etc. – often unwritten, not codified) differentiated by their different enforcement characteristics (cf. North 1990).

New institutional economics is largely based on neoclassical economics and in line with the rational choice theory, where individuals are assumed to behave in a calculative, self-interested fashion whereby costs are balanced against benefits in order to achieve maximized personal utility. Hence it is assumed that individual choices are determined by a set of external constraints with the goal of maximizing utility³⁵. Individuals are therefore assumed to be rational utility maximizing beings. Most positions within the *new* institutional economics accept the core of the neoclassical model it regards individual decisions as bounded by rationality, when furthermore positive transaction costs is an additional factor (cf. North 1990 and Williamson 1985, cited in Vatn 2005:90ff).

The *classical* institutional economics perspective is sceptical of the *new institutional* tradition, criticising its narrow conception of institutions and unrealistic assumptions on individual's behaviour. The *classical* tradition, also recognizing transaction costs and information costs, has its seeds in the tradition of the sociologist Thorstein Veblen, who laid the foundations for the school of institutional economics. As early as the turn of the

³⁵ Individual utility prevails here as the only form of rationality.

19th century Veblen, who was also economist, developed an institutionalist approach to economic analysis. He defined institutions as “*settled habits of thought common to the generality of man*” (Veblen 1919, 239, cited in Vatn 2005a, 10) and described economic behaviour as socially determined, resembling with sociological understandings of human behaviour. To some extent Daniel Bromley stands in the same tradition, considering institutions as “*the rules and conventions of society that facilitate coordination among people regarding their behaviour*” (Bromley 1989:22). So he sees institutions as external to the individual but stresses the role of institutions in enabling and defining choices, simplifying and regularizing situations (cf. Vatn 2005:12). The sociologist Richard W. Scott points out that institutions “*consist of cognitive, normative, and regulative structures and activities [...] [and] are transported by various carriers – cultures, structures, and routines – and they operate at multiple levels of jurisdiction*” (Scott 1995:33). He also bases his categorization on a socially constructed view of humans, who interact and thereby *transport* institutions. Behaviour in this regard is not seen as purely strategic but as bounded by the individual’s worldview while institutions contribute to the perpetuation of stability and provide meaning to social life (cf. Scott 1995:33). Coming from *agricultural economics* the Norwegian economist Arild Vatn (2005) developed a specific position on *classical* institutional economics and distinguished institutions further as “*conventions, norms and formally sanctioned rules*” (Vatn 2005:60) through which expectations, stability and meaning is generated (cf. *ibid.*). Accordingly, life is regularized, values are supported and interest is produced as well as protected (cf. Vatn 2005:60f). Hence, these collective creations manifest people’s perceptions and rationalities and also may modify their perceptions. Rationality, in this sense, depends then on the institutional context, it is defined by this context and choices that are vitally governed by internalized values, rules and perceptions (cf. Vatn 2005:101f). The complexity of the scientific elaborations becomes especially apparent when trying to observe, comprehend, codify or consciously grasp specific institutional arrangements in a certain setting, which one aims to study. This may be explained by the conventional character of many institutions, as social institutions are not straightforward objects of individual choice but often cloud their influence and prevent direct scrutiny (cf. Marina Padmanabhan 2010:2).

The short overview of institutional economics is important in order to be able to arrange the diverse approaches to issues of natural resource governance management regimes distinguished by property rights and the assessment criteria for long-enduring or ‘successful’ institutional arrangements. Overall, it is noticeable that resource systems regulating commonly used natural resources differ substantially in how they operate and how and whom they benefit. Evaluation of regimes can be based on various aspects. For example evaluating regimes based on their long-term economic and ecological viability as well as on their account for equity and social justice. What becomes optimal or efficient depends not only on the chosen institutions and the interests that they are set to defend but also on the ability to obtain institutionalized protection of interest in the form of rights linked to how costs and benefits are distributed (cf. Bromley 1989:57, 109, 182f). A notion of universal judgement concerning ‘desirable institutional solutions’ is difficult to argue and appears to be about whose perspective and subsequent interest is manifested and protected.

Guided by the conditions under which people interact with and utilize the natural resources, the observed practices are contextualized within the *classical* institutional perspective. This, in turn, cannot be divorced from the broader idea of social constructivism, whereby it is utterly important to recognize the interactive and mutually constitutive character of institutions in relation to behaviour (cf. Vatn 2005). In consideration of the *classical* school of institutional economics, the role of the collective and the effects that institutions have on forming the individual is highlighted. Following this, people are depicted as *survivors of the system*, as products of the social conditions under which they are living.

4.2. Governance of Natural Resources

Significant research has been conducted on the governance of forests and other natural resources that investigates how to halt over-exploitation, counter degradation and identifies its causes. In the literature, governance is identified as occurring at the local, national and global levels and that these levels of governance are interlinked. For instance, the IUCN (2004) conceives of the governance of natural resources as “*the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other*

stakeholders have their say in the management of natural resources-including biodiversity conservation” (IUCN 2004:1).

Governance of natural resources that are utilized in common by a group of individuals is influenced by the contrasting interests in resource utilisation that tend to exist between local people(s), local NGOs, international communities and governments. This is also valid for the forest sector, a contested space that is the focus of this thesis. How natural resources are sustainably used, depends both on the policies and institutional arrangements in which governance is expressed ensuring the viability of a resource system, and on how far the diverse and complex interactions between the *users* and natural resources are understood. But before elaborating on resource management regimes, it is useful to specify *common-pool resources* and the following theoretical arguments.

In economics, resources are generally conceptualized as commodities according to the attributes of rivalry and excludability³⁶. This thesis differentiates between *public, private, toll goods and common-pool resources* (cf. Ostrom, Gardner, and Walker 1994:6f), but since an in-depth discussion of the four categories of goods³⁷ or resource commodities is not considered relevant here, only *common-pool resources (CPR)* is focused on. A *CPR* is by nature a class of natural or man-made facility that produces a flow of use units per unit of time and both a flow and a stock of units are subject to the challenges of appropriation and provision (cf. Ostrom et al. 1994:7). In a common-pool resource situation the size and/or the physical attributes of the resource (that is provided by nature or through activities of other individuals) makes it difficult to exclude potential beneficiaries from obtaining benefits from it (cf. *ibid.*). Thus the enforcement of a limitation of benefits (from the resource) becomes costly and complex. With regard to appropriation, the problem to be solved relates to excluding potential beneficiaries and allocating the subtractable flow, whereas provision refers to the creation of

³⁶ Whether to consumption of a good by one individual precludes its consumption by another (rivalry) and whether it is easy or difficult to exclude (legally and/or economically) a person from consumption of the good (excludability) the four types are arranged.

³⁷ *Public goods* are non-rivalrous and characterized by the relative difficulty of exclusion both economically and legally, for example clean air, lighthouses or streetlights. The exact opposite of it are *private goods* whereby consumption by one individual necessarily prevents that of another. The third type of good is termed *club good* or *toll good*, which share with *private goods* the relative ease of exclusion but they are non-rivalrous until the point where congestion occurs, for example private parks, satellite TVs or cinemas (cf. Ostrom, Gardner, and Walker 1994:7).

resources stock, that includes maintenance and improving production capabilities or avoiding destruction of it (cf. Ostrom et al. 1994:9f). Provision problems are generally more important in the case of human-made resources but can also be an issue with natural resources when maintenance becomes necessary (cf. Lee 1994:3). There exists a wide diversity of *CPR* including irrigation systems, fishing grounds, pastures, water and forests that are used by multiple individuals. It is relevant to recognize that *CPR* differ from public goods in that public goods are not subtractable but both types can be subject to the problem *free riding*. In literature the users of *CPR* are referred to as *appropriators*³⁸ who withdraw resource units from the system that is monitored collectively. And for example a forest product that is collected or a fish that is caught by one individual is subtractable and through appropriation from the core resource it transforms into a *private good*.

Other physical attributes of *CPR* that are discussed in literature are mobility and storage, which both are argued to affect appropriation and provision problems as well as the relative ease with which users can resolve those problems and then also the kinds of institutional arrangements they are likely to be established (Schlager, Blomquist, and Tang 1994). This list of attributes, that can affect incentives of users and consequently problems of regulation is not claimed to be exhaustive but refers to the main focal points of the particular situation.

Reviewing the literature on resource governance institutions individuals using *CPR* are often allegorised as incapable of achieving collective benefits. Notable the classical economics point of view does not provide for the potential creation of agreements by individuals who also abide to and monitor and sanction their locally created institutions. That is linked to the view of individuals, who are considered in their calculative rationality as being unable to communicate, to be committed and to act cooperatively. It is noticeable that deterministic models that perceived social dilemmas are frequently associated with *common-pool resource* situations. And despite I want to distance myself from deterministic predictions I find it necessary to review three explanatory models due to their wide application and recognition.

Most famously is the *tragedy of the commons* metaphor by Hardin. At the heart of the *tragedy*, which is based on a one-shot static *prisoner's dilemma* game lies *the free rider*

³⁸ Throughout the thesis both terms – *users* and *appropriators* – are used interchangeably.

problem (cf. Ostrom 1995:6) which is also closely related to Olson's *logic of collective action* (cf. Olson 1965). Because they are important constituents in commons scholarship and writings on *CPR*, and also provided for policy prescriptions that in turn influenced individuals and communities behaviour, they are explored as below.

4.3. *Common-pool resource Situations – Three Models*

4.3.1. The Tragedy of the Commons Model

In 1833 the British writer on economics William Foster Lloyd first introduced the concept of the overuse of a common by its commoners. In line with these ideas Garrett Harding took up the issue and his article, published in *Science* in 1968, became to be known as the *tragedy of the commons*. Hardin (1968) predicted an inevitable tragedy arising from the situation in which multiple individuals, acting independently will ultimately deplete a shared limited resource although it is not in the group's long-term interest for it to happen (cf. Hardin 1968). He introduces a hypothetical example of a commons in this case a pasture shared by local herders and states:

“As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, “What is the utility to me of adding one more animal to my herd?” This utility has one negative and one positive component.

- 1) The positive component is a function of the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1.*
- 2) The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is only a fraction of -1.*

Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. [...] Freedom in a commons brings ruin to all” (Hardin 1968:1244).

The representation of the pattern of resource exploitation follows the notion that each herder will continue to impose costs on all others until the pasture is depleted. The

metaphor identifies the basic problems faced in a situation of *common-pool resources* and illustrates that free access and unrestricted demand for a finite resource accordingly results in overexploitation. He applied this metaphor also to the whole Earth's resources, understood as a general common, and the negative impact of human population growth, which was of primary interest to Hardin. The only way to overcome the dilemma and save the resources from the selfish use of a growing population with an ever-growing need is to enforce external regulation such as increasing government regulation hand in hand with the privatisation of the commons (cf. Hardin 1968:1245ff). The model addresses the appropriation problems that can occur but does not respond to problems of provision in *CPR* situations.

4.3.2. The Model of Collective Action Problems

The second model that is relevant in the controversies on the possibilities of individuals to organise and coordinate themselves and attain beneficial outcomes is referred to as *collective action problems*. Mancur Olson, who coined the term, was particularly concerned with the collective self-sufficiency with public goods and has developed a theory of group and organisational behaviour outlined in his famous book *The logic of Collective Action: Public goods and the Theory of Groups* published in 1965. Proceeding on the assumption that individuals act isolated he argues that "*rational, self-interested individuals will not act to achieve their common or group interest*" (Olson 1965:2) because they lack the incentive to contribute to the provision of the good and therefore will *free ride*. The general conclusion in regards to group size is that, larger groups will less likely succeed in providing themselves with collective benefits than smaller ones since they will face lower costs in organising and per capita of success is greater (cf. Olson 1965:36). Olson therefore suggests selective incentives, thus that benefits shall only be provided to active participants and concludes that induced contribution could solve the problem of *free riding* and enable *collective action* (cf. Olson 1965:51, 61f). The model is less pessimistic than the tragedy pictured by Hardin and addresses only the *provision problems*.

Olson's book has stimulated wide debates in political science and sociology. The basic conclusions are challenged in sociological research and by some scholars of institutional economics because the supposition of unconnected individuals barely reflects empirical-

observable situations and sociological research suggest that informal social networks and formal organisations essentially determine collective action (cf. Panther 1997:72). Since the individualist perspective of understanding behaviour in the model is solely linked to the expected economic consequence, and other motives or behavioural incentives (such as institutions including norms and conventions that may be shaped by religion, tradition and/or ideologies) do not find recognition (cf. Leipold 1997:235) its relevancy has also been challenged. Vatn (2005) highlights that “*the maximization of individual utility is the logic of only a subset of all institutionally created situations*” (Vatn 2005:39) and from an institutional perspective attention has to be brought to the conditions that have enabled or/and limited *collective action* and less to the isolated rational individual.

4.3.3. The Prisoner’s Dilemma Game

Hardin’s model of the *tragedy of the commons* and Olson’s *logic of collective action* can also be formalized as *prisoner’s dilemma game*, based on a one shot game. It is frequently found in theoretic literature to explain problems of resource depletion in *CPR* situations. The *prisoner’s dilemma game*³⁹ defines a situation, where two individuals defect even if it appears that it is in their best interest not to do so. If defection is the dominant strategy regardless of what the other player chooses and if players cannot change their mind upon finding out what the unanimous preferred outcome would be, then a situation is to be plausible modelled as a *prisoner’s dilemma*.

Based on the course that individuals behave self-fashioned and pursue rational strategies and thereby fail to achieve collective ‘rational’ outcomes – depicts the discrepancy between individual and collective rationality (cf. Lee 1994:14). The dilemma is also linked to the lack of information as well as the attribute of non-cooperativeness as of which the game is conceptualized. This can be exemplified with herdsmen who must not communicate with each other and who lack the knowledge of other herdsmen’s behaviour. But behavioural patterns are not in all *CPR* situations identical and *CPR*

³⁹ The classical example of the *prisoner’s dilemma* is that two suspects are being separately interrogated about a crime they jointly committed. Aware that if they both stay silent a light prison sentence will be imposed, yet if one stays silent while the other confesses the first will receive a long sentence while the other goes free. In the case of confession on both sides they both receive a medium prison sentence. It is assuming that each person can only choose once and the strategy chosen is adhered to regardless of the expected choice of the other player, and accordingly mutual defection will be the dominant strategy.

situations cannot always be categorized as *prisoner's dilemma games* (cf. Lee 1994:22). Considering the presumption that individuals jointly using *CPR* cannot coordinate the outcome resembles Hardin's conclusion and in order to overcome mutual defection, external control is required.

Summing up: in all three models the image that is created shows helpless (rational) individuals that are caught in an inevitable process of resource degradation and final destruction (cf. Ostrom 1995:8). People are assumed in their calculating mode rather than recognizing their habitual or commitment mode; communication and creation of binding agreements between them are impossible and therefore are human cooperation and consequential collective benefits assumed as improbable. What was explained by the theories based upon game theoretic models and the logic of collective action is the situation in which individuals fail to jointly use, manage and govern their *common-pool resources* effectively. Based on the quasi dilemma situation the models found the ultimate conception of the definite imperative of (centralized) state intervention and control as well as privatisation – subjection under market forces. Alternative institutional solutions based on the potential of individuals and groups to escape or overcome dilemma situation or an adequate theory of *common-pool resource* situations that can explain the differences between the various types of (dilemma) situations has not yet been developed.

In terms of the property rights question the discussed models turn either to the establishment of full private property rights (the resource becomes a private good) or to the allocation of full authority and property to the state or another external agency. These two options might be valid under certain conditions but under others a common property regime that improves local systems of rules can be expected to be more suitable (cf. Wade 1987a:104f). The next section is devoted to the differing types of *resource regimes* that are treated in literature on resource use and management and the understanding of property in this regard.

4.4. Resource Regimes – Natural Resources controlled, managed and used under Four Types of Property Rights

The distinction between the type of resource and the type of property right (also defining the right of use) appears useful since it recognizes the fact that the same type of resource may be controlled, managed and used under a range of property rights. Any property regime – may it be private, common or state property – may have very precise rules or norms establishing the necessary incentives for resource use and maintenance (cf. Vatn 2005:261) and yet the “appropriateness” of a certain regime for a specific resource and for a specific context remains ambiguous.

A *resource regime* covers the property structure and the rules governing transactions of the products resulting from using the property. It thus can be defined on the basis of property rights and indicates governance structures. *Resource regimes* are generally understood as human creations aiming at managing people’s use of natural resources and according to Bromley (1991) are “*a structure of rights and duties characterizing the relationship of the individuals to one another with respect to that particular environmental resource*” (Bromley 1991:22). And accordingly, a *property right* is foremost a social relation, rather than an object. Through a specific authority structure, embodied by the state or government, legitimacy to and security of specific resources or benefit streams are granted. The authority structure enhances the property right, but is not sufficient for their existence (cf. Barzel 1997:4). A *property* is understood in economic terms as a “*a right to a benefit stream that is only as secure as the duty of all others to respect the conditions that protect that stream*” (Bromley 1991:22) and indicates the relationship between rights holder and rights ‘regarders’ (cf. Vatn 2005:254). In the case of natural resources – a piece of land and/or forest – may offer a range of benefit streams and can inherent different property rights that can exist at the same time.

The theoretical distinction of four types of property regimes into – *state (public) property regimes, private property regimes, common property regimes and non-property regimes (or open access)* – is commonly made. In practice, however, resources may be governed under a combination of regimes, land tenure may be complex and

control over use rights might be established by informal and formal rules and protected by different authority structures.

Most of the world's forests are under *state property regimes* and also national parks, biosphere reserves, wildlife sanctuaries or tiger reserves are cases of state property regimes⁴⁰. As such, ownership and management control rests with the state and state-authorized representatives have the right to determine use and access rules and make decisions on modification. A resource may also be under state property and local people are *de facto* able to make use of it and derive benefits. They may have rights to access, withdraw, manage and may determine who else is allowed to use the resource, but it all occurs at the forbearance of the state. Sometimes usufruct rights are codified for a certain period of time but usufruct may also be allowed by verbal contracts. However under these circumstances such informal agreements may vanish at any time. Schlager and Ostrom (1992) developed a conceptual schema for arraying property-rights regimes that distinguish among – *authorized user, claimant, proprietor* and *owner* holding diverse bundles of rights (cf. Schlager and Ostrom 1992:249f).

Governments can also set aside areas for use by communities. These are then under collective management through community-level institutions, or shift from a state property to a common property regime, collectively owned and controlled by communities can be initiated (cf. Agrawal 2007:116).

Baland and Platteau (2000) note that centralized *state resource management regimes* generally suffer from serious information gaps (cf. Baland and Platteau 2000:382). They originate from the difficulty of collecting information not only about a huge variety of resource types and microclimatic constraints but also about behaviour and customs of user groups themselves as well as the specific constraints confronting them (cf. Baland and Platteau 2000:382). In *state property regimes* the relationship between executive government agencies (in India that is the forest department) and groups of users, is also problematic and may effect the working of the regime. Taking into account that the establishment of state regimes in India during the British colonial rule replaced the former common property or open access regime significantly accounts for the antagonism between the different actors (cf. Guha R. 1983).

⁴⁰ The IUCN protected area definition and associated management categories do not prescribe any type of ownership or management authority and PAs in any of the six categories can be owned and/or managed by communities, private parties, government authorities, NGOs or various combination of these.

On the opposite side there is *private property regimes*. Under which “*individuals have right to undertake socially acceptable uses, and have a duty to refrain from socially unacceptable uses*” (Bromley 1991:31). A right holder is thought of as an individual, or as in the case of corporate property a specified group of right holders. Postulations that establishment of private property rights systematically achieve greater efficiency dominates the property rights school and is empathic to Hardin’s metaphor (cf. Baland and Platteau 2000:36f). But private property on natural resources may be problematic particularly from an equity viewpoint, since livelihood of poor people often crucially hinges upon the access to resources at the village level. Baland and Platteau (2000) also note that efficiency problems can be severe due to pervasive market imperfections characterizing particularly developing countries (cf. Baland and Platteau 2000:382). Another aspect is the difficulty of parcelling out of land into smallholdings. Not only regarding the incredible cost that may be associated with establishing *private property* instead of another regime but also as a matter of feasibility.

The third regime being *common property regime* features the owner group who “*have right to exclude non-members, which in turn have duty to abide by exclusion.*” and individual co-owners who “*have both rights and duties with respect to use rates and maintenance of the thing owned*” (Bromley 1991:31). Following this, it is prerequisite that the behaviours of all members are subject to accepted rules, which are ideally embedded in a built-in structure of economic and non-economic incentives that encourages compliance with existing conventions and institutions (cf. Bromley 1991:27). Essential is, as for any of the property regimes, an authority system that ensures that expectations of rights holders are met. If that system breaks down and rules are not adhered to – for whatever reason – the common property degenerates to open access (cf. Bromley 1991:28). In that scenario the right of the identifiable group vanishes and the resource is open to all.

So the term *common property* implies a kind of management agreement created by a specific group and does not convey specific characteristic of the resource itself. While reviewing literature I often came across the term *common-property resource* that had become embedded in the language used in economics and policy literatures (cf. Dietz et al. 2002:17f), but the tradition of leaping from resource characteristics to regime implications is problematic in many ways (cf. Vatn 2005:263). For reasons of

conceptual clarity, the term *common-property resource* is avoided and instead reference is only made to *common-pool resources* equalized with *CPR* (see section 4.2.). Such *common-pool resources* can be subjected to any of the four property regimes. When *CPRs* have no institutions governing their use and no property rights exist, it converts into a **non-property rights regime** or **regime of open access**. In such a situation of open access there is neither property rights nor a social authority system that ensures social recognition. Only through possession, thus by physically capturing the object, control can be exercised (cf. Bromley 1991:30).

The vast body of literature dealing with the *tragedy of the commons* has confused the social dimension and the concept of *property* with a *physical object* (cf. Bromley 1991:30) and thereby misleadingly assumed that *open access* would constitute *common property*.

From an economical perspective there is a relative advantage of a *common property regimes* in situations when transaction costs, including costs of collective decision-making on common property, are little. That applies to situations when (1) the number of individuals, which share a resource is little, (2) the individuals, which share the access to the resource, meet repeatedly over a long period of time, (3) the individuals share the yield in a fair manner and (4) the individuals are connected to each other, by kinship-relations or reciprocal relations, beyond the utilisation of the resource (cf. Gadgil and Iyer 1989:241). The suggested points overlap with criteria that are deemed to be crucial for successful local management of *CPR* as stated in the next section. But under the assumption that transaction costs are zero (then all information is cost free), all have perfect knowledge and communication is cost free, any property regime has the same technical efficiency characteristics, hence considerations at a theoretical level find no decisive argument in support of one particular property regime (cf. Baland and Platteau 2000:179).

Suggestions are made to consider different historical experiences and to uncover new influencing factors, which a purely conceptual approach might have overlooked and Paavola (2007) suggests that a revised conception of governance institutions and a replacement of the established typology of four property regimes is necessary in order to accommodate all governance solutions in it (cf. Paavola 2007:97). In any case, a careful analysis of *resource management regimes* is required to understand the

constellation of rules and conventions in the same way as people's behaviours with respect to the resources.

4.5. Criteria for Formation and Stability of CPR Institutional Arrangements

In some *common-pool resource* situations users engaged in collective action, established governance institution a long time ago that sustained and worked towards sustainable use of a resource. In others cases governance systems failed in doing so or users did not invest in designing and implementing of the systems. Prior to the issue of assessment of governance solutions in *CPR* settings, the question arises *under what conditions the formation of self-governing institutions may take place?* Conventional (neoclassic) economic theory does not really explain situations where users create, abide to and sustain agreements to avoid resource-overexploitation. Based on empirical research in *CPR* situations considerable consensus is reached on a set of variables that enhance the likelihood of users organizing themselves to avoid over-exploitation. Drawing on Ostrom (2005) the following attributes of resources and appropriators are conducive to an increased likelihood that self-governing associations will form:

“Attributes of the Resource

R1. *Feasible Improvement*: Resource conditions are not at a point of deterioration such that it is useless to organize or so underutilized that little advantage results from organizing.

R2. *Indicators*: Reliable and valid indicators of the condition of the resource system are frequently available at a relatively low cost.

R3. *Predictability*: The flow of resource units is relatively predictable.

R4. *Spatial Extent*: The resource system is sufficiently small, given the transportation and communication technology in use, that appropriators can develop accurate knowledge of external boundaries and internal microenvironments.

Attributes of the Appropriators

A1. *Salience*: Appropriators are dependent on the resource system for a major portion of their livelihood or other variables of importance to them.

A2. *Common Understanding*: Appropriators have a shared image of how the resource system operates (attributes R1, 2, 3, and 4 above) and how their actions affect each other and the resource system.

A3. *Discount Rate*: Appropriators use a sufficiently low discount rate in relation

to future benefits to be achieved from the resource.

A4. *Distribution of Interests*: Appropriators with higher economic and political assets are similarly affected by a lack of coordinated patterns of appropriation and use.

A5. *Trust*: Appropriators trust one another to keep promises and relate to one another with reciprocity.

A6. *Autonomy*: Appropriators are able to determine access and harvesting rules without external authorities countermanding them” (Ostrom 2005:244f).

These variables are also given attention by other scholars including Wade (1987b), Ostrom, Gardner and Walker (1994) and Baland and Platteau (2000) that engaged in empiric research looking at *common-pool resource* situations. As to the pertinent question in this thesis, the measuring and weighting of these variables on a cumulative scale is not aimed for. Instead this research aims to analyse the current *CPR* situation and concentrates on the issue of conditions of utilisation by whom engendering an institutional perspective.

Next I deal with the performance of regimes of local self-governance, which vary across systems and time. Numerous attempts for assessing the sustainability of institutions that frame the governance of *common-pool resources* are found in literature and emphasis can be placed on different aspects inherent to the specific arrangements. Particular systems vary substantially from one another in their types of rules, obligations for users and sanctioning mechanism, and a normative generalization about a specific institution that frames successful-sustainable governance is neither feasible nor possible.

Ostrom (1995) developed eight design principles, which indicate durability as in robustness and are widely applied. Her work is based on a model of human behaviour assuming individuals to be “*fallible, norm-adopting individuals who pursue contingent strategies in complex and uncertain environments*” (Ostrom 1995:185) following North’s conception of institutions as “*constraints that structure political, economic and social interaction*” (North 1991:97) devised by humans to create order and reduce uncertainty in exchange. Given that, collective action may only become possible when trust and reciprocity are built and sustained and thereby uncertainty is reduced. The eight design principles, in this effect, can be used in order to understand under what conditions sustained collective action may happen and uncertainty can be reduced (cf. Cox, Arnold, and Thomás 2010:2).

1. The *first principle* conceptualises **clearly defined boundaries** of the resource and of the user groups (cf. Ostrom 1995:91). There has to be clear defined boundaries between legitimate users and non-users as well as clear geographical resource boundaries that define a resource system and separate it from the larger biophysical environment. Users receive some benefits of resource appropriation and bear the costs of provision within the bounded area.
2. The *second principle* refers to the **congruence between appropriation and provision rules and local conditions** (cf. Ostrom 1995:92). Operational rules governing time, place, technology and/or quality of resource used and cost in terms of labour, materials, and/or money should be appropriate to local social and environmental conditions (cf. Ostrom 1995:92). Users obtain benefits from a *CPR*, as determined by appropriation rules that have to be proportional to the amount of inputs/contributions required in the form of time, labour, material or other resources, as determined by provision rules. Users will only maintain their contributions (=costs) into *provisioning* if they are balanced with the received benefits. If rules are unfair and unsuitable to local circumstances then success of institutions is unlikely to sustain in the long run.
3. The *third principle* is concerned with **collective choice arrangements** requiring that most individuals affected by the operational rules can participate in modifying the rules according to changed local conditions (cf. Ostrom 1995:93). This is formulated in line with much of the scholarship on local (traditional) knowledge in natural resource management where importance is attached to first hand and low-cost access to information of local users and comparative advantage in devising effective rules and strategies (cf. Cox et al. 2010:9).
4. The *fourth principle* gives attention to **monitoring**, stipulating the presence of monitors and further the condition that these monitors are members of the appropriators or otherwise accountable to those members (cf. Ostrom 1995:94). Both appropriation and provisions levels of the users as well as conditions of the resource are monitored. It facilitates effectiveness of rule enforcement mechanisms and makes visible if the rules are not complied with.
5. The *fifth principle* takes into account **graduate sanctions** (cf. Ostrom 1995:94). The principle stipulates the efficiency of graduated sanctioning systems.

Users/Appropriators who violate operational rules are likely to be subjected to sanctions depending on the seriousness and context of the offence either by other appropriators, by officials accountable to the appropriators, or by both. It targets deterring users from excessive violations of rules.

6. The *sixth principle* on **conflict-resolution mechanisms** specifies that users and officials have to have rapid access to low-cost, local arenas to resolve conflicts among appropriators or between appropriators and officials (cf. Ostrom 1995:100). Conflicts among users or between users and officials in *CPR* situations are inevitable, hence resolution mechanisms need to be immediately available or easily accessible.
7. The *seventh principle* postulates the **minimum recognition of rights**, so that external or government authorities do not challenge the right of local users to devise their own institutions (cf. Ostrom 1995:101). Local authority can also be associated with recognition of local knowledge and existing institutions and also can be viewed in the context of decentralisation efforts supported by legislative recognition.
8. The *eighth principle* states that in successful systems appropriation, provision, monitoring, enforcement, conflict resolution and governance activities are organized in **multiple layers of nested enterprises** (cf. Ostrom 1995:101). Ostrom refers to vertical linkages, thus nesting between user groups and larger governmental jurisdictions and relates like in principle seven, to the relationship to outside authorities.

The principles are understood as exploration into what is important in a *CPR* setting, and in effect when and why conditions of trust and reciprocity can be built and maintained to sustain collective action. Cox et al. (2010) find that the principles are empirically well supported, however, criticize their incompleteness and further state that “*a probabilistic, rather than deterministic, interpretation of the design principles is warranted*” (Cox et al. 2010:16).

Other authors also produced theoretically informed generalisations about conditions under which users are successful in managing their *CPR* and extended the list of relevant criteria. Comprehensive attempts are found in Wade (1987b) who finds 14 factors that facilitate institutional success, whereby local context, user groups, and the

resource system, but also relationship between users and resources play a role. Also Baland and Platteau (2000) who point to several variables, that existing research has suggested as crucial to community level institutions, and arrive at conclusions that significantly overlap with Wade and Ostrom. Baland and Platteau (2000) point to the relevancy of size and find that chances of success are greater if user group is small and boundaries are clearly defined and it is beneficial if there is an overlap between the location of the resource and the residence of the users (cf. Baland and Platteau 2000:286f). Their conclusion is also supported by Olson's work on collective action.

Another contentious factor is the effect of local level heterogeneity on the capacity of individuals to self-organise and sustain institutions of collective action. Socio-economically heterogeneous community groups, can be divided among *inter alia* ethnicity, gender, religion, wealth, caste, norms and resource dependence and in access to decision-making – were found as being conducive to collective action (Olson 1965; Baland and Platteau 2000) or as found to have no clear-cut impact on collective action (Adhikari and Lovett 2006) but the relationship is clearly complicated (cf. Bardhan et al. 2002:87). But instead of ignoring the fact that communities are, only in the rarest cases, small spatial units, with a homogeneous social structure and shared norms it is suggested to shift the focus on “*the divergent interest of multiple actors within the communities, the interactions or politics through which these interests emerge and different actors interact with each other, and the institutions that influence the outcome of political processes*” (Agrawal and Gibson 1999:640). Therefore emphasis shall not be placed on different dimensions of heterogeneity of CPR users but on the institutions, which frame the interactions between the users (cf. *ibid*).

Moreover the importance of users knowledge about sustainable yield is stressed, plus the factor of people's concern about their social reputation and if cheating on agreements is noticeable in the literature referred to above. All three points are assumed to enhance the likelihood of overcoming the difficulties in collective action (cf. Baland and Platteau 2000:287). Attention is also paid to external forces, such as the role of aid and leadership (cf. Baland and Platteau 2000:290f) whether financial or technical development assistance and strengthening of leadership through outside stimulation influences the outcome of collective action.

The regularities in successful management that are found by Ostrom (1995), Wade (1987b) and Baland and Platteau (2000) are classified into four sets of variables by Agrawal (2002). The categories comprise “(1) *characteristics of the resource*, (2) *nature of groups that depend on resource*, (3) *particulars of institutional regimes through which resources are managed*, and (4) *the nature of relationship between a group and external forces and authorities, such as markets, states, and technology*” (Agrawal 2002:53). Generally more attention has been given to contextual variables and external factors and how pressures from outside (e.g. technological change or market integration) influence the local context gained deficient focus. Agrawal (2002) criticises that lack of recognition and argues in favour of attention to the role of markets and the state but also in terms of demography (cf. Agrawal 2002:59).

In the context of the undertaken fieldwork the external pressures on the setting were complex, yet there is no preference given to one particular of the four categories. There may also be interactional effects between variables that may affect the likelihood of sustainability of *CPR* but postulates on causal variables will not be reviewed on a theoretical level within this chapter. Importance of interactional effects will be driven from empirical analysis and not through an *a priori* designation of them. The aim is to improve the understanding of the constraints and enabling conditions that are in place in the particular research setting. Findings are specified on their peculiarities and on contextual relevancy and shall not be dominated by variables but rather are set in relation to the theoretical contributions through interpretation.

5. Contested Forests: Insights from BRT Wildlife Sanctuary on the Utilisation of the *common-pool resources*

This chapter deals with the findings from empirical research. It brings results and discussion together at the level of the research question. This is complemented by methodological reflections on subject matters that emerged as challenging. Through an integrative strategy, the gathered insights are related to the theoretical literature of institutions and CPR arrangements.

The forest areas in BRT are conceptualised as *common-pool resource* governed by a state property regime allowing for some amount of utilisation of the local forest dwelling community. I look at this group of people who directly interact with the *common-pool resource*, collect resources and obtain a multitude of tangible and intangible benefits. As laid down by the Millennium Ecosystem Assessment (MEA) 2005, I will draw upon the existing categories of benefits in order to explain the use of the *CPR*. The MEA outlines the concept of ecosystem services, divided into *provisioning services* such as food, water, timber and fibre, *regulating services* that affect climate, floods, disease, waste, and water quality; *cultural services* that provide recreational, aesthetic, and spiritual benefits, and *supporting services* such as soil formation, photosynthesis, and nutrient cycling (cf. Millennium Ecosystem Assessment 2005:V). As the analytical concept of ecosystem services is a popular approach to analyse nature-society relationship and from it emerged the concept of payments-for-ecosystem-services⁴¹ (PES) as a policy instrument *trying to* solve environmental problems (further discussed in Lele et al. 2012).

The local forest dwelling people need to be considered as pivotal actors in BRT in addition to state and executive agencies, scientists and research organisations as well as to some extent private actors. While these actors interface through dialogues and conflicts they assume a role in the governance structures that influence utilisation. The

⁴¹ The discussion around PES in this regard is what emerged as the current discussion about environmental goods and is essentially based on Harding's idea of the tragedy of the commons, where he applied the overexploitation already on the whole Earth's natural environment.

people from *Kalyani podu* interact frequently with the surrounding forest areas and their historical presence in the landscape needs to be recognized.

The local *Soliga* community has traditionally inhabited and utilised the forest area for centuries. While they hold bundles of rights and possess essential ecological knowledge on conservation (cf. Madegowda 2009), they historically exercised control through forest utilisation and continuously perform *inter alia* monitoring functions. When in 1974 BRT wildlife sanctuary was established a ban on shifting cultivation was implemented and a settlement into *podus* was enforced. The designated protection resulted in a prohibition on the practice of hunting and curtailment in the use of forest landscapes. The *rules* or *institutions* for utilisation and performance of customary practices altered and change of these set of regulations pervaded diverse spheres of life. Morab (1977) points out that the earlier practice of semi-nomadic settlements in interior parts were based on considerations on availability of forest products and edible roots, since they are essential items of their economic activities and diet (cf. Morab 1977:19). The earlier changes in location also resulted in rotative compositions of communities because they were formed and subsequently dissolved after four or five years, whereby “*the nature and composition of the Soliga settlements have much bearing upon ecological conditions and economic pursuits followed by the people*” (Morab 1977:16). The establishment of permanent settlements and new designation of land and forest evoked also a change in feasibility of other practices of resource utilisation. The state initiated intervention is deemed to have curtailed the ways in which people obtained benefits and access to forests became subject of contestation. Direct utilisation practices of people from *Kalyani podu* need to be linked with the established political and legally sanctioned framework conditions that allowed for interaction. Given that, as an essential starting point, in the following sections diversity of utilisation and the various benefits are identified and external factors that act on the *CPR* situation are pointed out.

The Mapping of Places

The people from *Kalyani podu* have custodial rights to roam over various areas, graze their animals and collect natural resources from the forest. These are based on informal entitlements and oral allowances while at the same time the Forest Rights Act implementation proceeds by which rights become legally recognized. From the very

beginning of my fieldwork the idea of mapping frequently accessed grazing places as well as places primarily utilised for collection came up, however, gradually I realised that it was a seemingly inadequate approach. In an endeavour to take notes of place and time specific distinctions I also sought the equivalent names to the various places that were accessed and utilised and it turned out to be extremely difficult. Ambiguity in people's statements was prevailing in multiple ways: regarding **if** the specific forest area had a name or not, **where** lines of demarcation were drawn and based on what attributes and **what** the name of a certain place was. One woman explained that "*there is no name for all the places, maybe it is not known to me but I know the way to go there*" (Interview 6, 30.8.2011). Place names were observed to be comprised of connotations to particular plant species, the type of forests and dependent on the uphill grade, thus arranged on topographic characteristics. Yet the very idea of demarcating and mapping places according to *their names* seemed rather incompatible with the understanding and ideas that the people had of a certain forest place. It appeared that people were very surprised and wondering how this sort of classifying and mapping would be of any use to me or in general, also since they were aware that *outsiders* may not understand names and corresponding connotations. A listing of places typically featured many different names as:

"[...] siddhapura betta⁴², gumanne betta, kattle betta, then doddu betta. You [reff to me] have visited some of these places. Here on the other side malle kadu, ballebare is there that side, this side sabkanagedde, jajare and sorukayi betta, then this side is bellugedde [...] there is many many different places, some you can not go to. You have seen many grasslands and pastures, you went with my younger brother, but you can not know the names, you can not recognize the place" (Interview 5, 30.8.2011).

Taking into account these considerations I decided to lay the focus not on the mapping of certain places but rather on utilisation and the associated characteristics and local distinctions. Thus, the inductive accounts of places need to be understood as inherently *selective* and *explicative*.

⁴² *Betta* refers to a hill or mountain and *kadu* denotes forest or area of trees.

5.1. Forest as a Source of Provisioning and Cultural Services

Use-related interactions in forest areas appear to permeate important spheres of life in the research setting that range from socioeconomic aspects to cultural spiritual places of relevance. People from *Kalyani podu* actively utilised the forest areas and natural resources and diversified benefits can be recognized and were expressed as being relevant. It is important to note that the effort and time that is associated with utilisation has to be viewed in balance with the benefits that are obtained, whereby all interactions are categorized as framed by institutions.

Largely based on the collected empirical materials during fieldwork this section begins with focussing on the appropriated material resources actively collected in daily routine. In substance these natural resources span from firewood, construction materials, medicinal plants, fodder, leaves, berries, honey, greens, tubers, gooseberries to lichen etc., in literature they are commonly referred to as Non-Timber Forest Products⁴³ (NTFPs). As such the appropriated item can be conceived as diversified units and flows that require different appropriation and provision efforts (cf. Ostrom et al. 1994:6). With regard to use-related interaction between people and the forest areas of BRT, it is recognized that people allocate their *time* to utilisation, but also *labour*, *materials* and, of course, *knowledge* is allocated. In turn they obtain various *benefits* that may be food, cash or intangible benefits. While the Millennium Ecosystem Assessment (2005) also addresses supporting and regulating services, within this thesis I will primarily discuss the categories of provisioning services and cultural services (cf. Millennium Ecosystem Assessment 2005). Expected benefits or estimated yields may fluctuate, however, it can be assumed that people aim to balance their input with what they gain in forms of various directly obtained benefits.

“We get firewood from this place [reference to a particular forest area called malle betta] when we go for grazing we also get firewood, we simply go and get it. The fallen sticks, we pick it up and take it. We light a fire and cook. In kerosene oil we can’t cook much food so we have to get firewood. [...] And we take wild leaves, medicine and honey from inside the forest [...] then also genshu and

⁴³ Benefits derived from timber yield are not considered here, since gains from timber in PAs are strictly reserved to governments and their executive agencies and are not to be appropriated by *users* who directly interact.

gedde if we find it, but it comes less now [...] sometimes we must take fodder for our goats and sheep. And we collect amla⁴⁴ for selling, but it is not ripe yet” (Interview 2, 24.8.2011).

The statement reflects the notion of diversity in use of forest products that are appropriated from inside the forest areas. Keeping of animals is an important source of livelihood for the people, some families have goats and sheep (they are either sold in Yellandur or consumed on special occasions during festivals) and other families have cattle (for daily milk and important for agriculture⁴⁵) and some have both (Field notes 2011). The animals are grazed inside the forest with the exception of some days, when the weather is bad or when most people are busy the herds are grazed at the grasslands just at the foot of *Kalyani podu*. This area is unfenced but held in private property and co-used sometimes. Around three or four people go for grazing with either goats and sheep or a herd of cattle. The group of people changed at irregular intervals “*whoever has time will come, when I have no coolie⁴⁶ I will go for grazing [...] we all talk and then we will go this way, we will decide and go*” (Interview 1, 23.8.2011). It was noticed that in most cases family members are going together and the group members are always in some way related to each other. Women and men in principal go together for grazing, yet cattle herds are not grazed without men and if only a group of women go they tend to take only goats and sheep (Field notes 2011). The animals are grazed at various places inside the forests and cattle are also taken further up at mountain pastures. Between the seven *podus* in BR Hills grazing places overlap, occasionally two groups of people from different *podus* join in and continue together. At other times groups only met and talk for a while, split again and continue to different areas.

In the *CPR* situation in BRT people not only interact with the forest independently but naturally communicate, they exchange news and address problems or conflicts during grazing and collection practices. This, in fact stands in contrast to the prisoner’s dilemma (see 4.3.3.), which assumes a situation of non-coordination and would render

⁴⁴ *Amla* is the Hindi word for the Indian gooseberry stemming from Sanskrit *amalika*, whereas the alternate name *nellikkai* is used in Kannada and Tamil. For practical purposes the term *amla* was adopted from conversations and interviews.

⁴⁵ Cattle dung is used as organic fertilizer and when harrowing the fields oxen are pulling the plough.

⁴⁶ *Coolie* comes from the Hindi word *kuli* and has historically been used to refer to an Asian slave or manual labourer. In certain context and countries the term is offensive linked to its etymology. In the research setting it denotes manual labourers, often engaged in construction work.

cooperative behaviour impossible. Thus the forest in BRT is a social space and intersection allows for spatial variability and adaptation by individuals and between groups of *users*. Behaviour is evidently coordinated and has to be understood in these terms. Having said that the embeddedness of *the research* into a context of social science becomes manifest, whereby choices are governed, values are supported and interests are produced (cf. Vatn 2005:60). Inductively aligned to the sociological basic understanding of humans, I construe them as being socially constructed, whereby the phenomenon of coordination and cooperation in terms of *CPR* utilisation becomes extremely instructive.

During fieldwork I was taken to many different places located in the surrounding areas and decisions on where to go were voiced to be fully random (Field notes 2011). In trying to observe regularities, patterns of access and decision structures it appeared that these internal processes were extremely difficult to explore. On the one hand this has to do with my position as an *outsider* and the particular challenges that I faced. On the other hand may be explained by the observation that behaviour is complex and coordinated and practices are responsive to imposed regulations. At the same time there are a number of externally created constraints (regulations on forest utilisations and experienced reprehension) that permanently act upon the setting as well as people's views (see also 5.2.).

5.1.1. Sacred Sites of Importance

As mentioned above the forest also provides non-material benefits to the *Soliga* community in form of cultural services. These *sacred sites* and *sacred groves* have spiritual/religious importance and are part of their cultural heritage (cf. Mandal et al. 2010:263f), they are associated with a specific clan and are spread all over the sanctuary. There was one huge tree that we had often passed by but I never really had taken notice of it, one day a man explained that this was one of the sites where *pooja* was done. The tree was decorated with colours and flowers that had faded away and a small area around the tree was cleared from overgrowth, he was telling:

"[...] to some places we cannot go, they are sacred. We cannot take anything from such places, no firewood, no sticks, we don't take anything from the trees,

but that is further away. It is like that from our great grandfathers time” (Interview 5, 30.8.2011).

When I raised the question on when such places were visited one man stated:

“there are so many different places where our gods are. Usually I will go once a year [...] when someone dies they will put a stone there, and before we collect anything we go to a different place, there we have to do pooja [...] different people will go to different places, this is why there are different gods” (Interview 3, 25.8.2011).

Many people emphasised that they would go to their *sacred sites* always at times of festivals, and occasionally when it was *necessary* but generally these places were avoided during other times of the year. One woman also mentioned a temple further down inside the forest, which she visited once or twice a week *“to get the pooja, to invoke god’s blessing”* (Interview 6, 30.8.2011). In the whole of BRT there exist 489 *sacred sites* that are divided into *devaru, maramma, habbi, veeru, kallugudi and sagga* – each of these cultural spaces are associated to specific clans (see Annexe A.3). In 2010 ATREE and the community-based organisation *Soliga Abhivrudhi Sanga (SAS)* developed a map of all *sacred sites* in BRT wildlife sanctuary⁴⁷, recognising the historical and cultural ecologies. The map was generated through an extensive consultative process and aimed to understand the ways in which *Soligas* interacted with the landscape (cf. ATREE n.d.). By documenting *sacred natural sites* historic presence of the people and cultural linkages with the forest became formally recognized and also reaffirms their *institutions*. The map also constitutes spatial evidence important for filing FRA claims transforming *de facto* entitlements into *de jure* rights (see 6.1.). This procedure from recognition by recording and visualisation of cultural geography (cf. Mandal et al. 2010:270) into a feasible practicality for legal claims is a central issue because it marks the realisation of institutional inclusion into policy and legislation, albeit the thorough implementation of the rights may not be simultaneously ensured.

⁴⁷ See annexe A.3 for the map of sacred sites in *Biligiri Rangaswamy Temple Wildlife Sanctuary*.

5.1.2. Diversity in the use of *common-pool resources*

Drawing from observations and statements in the interviews daily firewood collection was expressed as most immediate and extremely important, because of the lack of affordable alternatives. In an interview with two women who often took me with them one of them explained:

“When I come to the forest for grazing, I collect firewood. I need to roam through the forest, I find broken branches and something fallen down and pick it up, then carry it home. I will light my firewood and I cook [...] it’s a kind of work, it is work outside the house” (Interview 1, 23.8.2011).

Legitimacy for collection of firewood was assured on the grounds of acting *bona fide* as a matter of imperative and furthermore was viewed to improve the forest condition. It was explained to me that firewood was something naturally provided, a by-product of a *healthy forest* (cf. Interview 14, 14.9.2011) and people explained that it was available through, for example, elephant’s activities. Branches that were broken off or trees that were uprooted and had dried out were commonly collected as firewood (Field notes 2011). In the field setting allocation of firewood did not appear conditional to specific provisional efforts, as it may be the case for other forest products. It was noticed that people disagreed on whether the stock of available firewood had increased, decreased or if it has remained stable over the last years (Interview 3, 5, 8, 15). It was argued that the amount of accessible firewood had increased due to the problem of overgrowth and mistletoe affection that impaired the condition of the forest *“there is nothing other than lantana growing, the trees died and it has all become waste”* (Interview 13, 13.9.2011). Another statement points to the contrary, that stock decreased and that it became harder to collect firewood *“in nearby areas you wont get good firewood, now we have to go to much further and search for it and it’s difficult to carry so far”* (Interview 5, 30.8.2011). The divergent statements point to heterogeneous perceptions within the community on resource conditions (see 5.2.) and also reflects experienced insecurities in claiming an assertion in the *CPR* situations.

Apart from firewood collection I took note of many various collected resources and observed people’s interactions with the surrounding area. The adjoining fields provided, for example, for quick fodder in busy times of work and for sick animals that could not

be taken for grazing. Then the young sprouts on huge from bamboo plants were harvested as ingredient for *sambar*⁴⁸ and wild guava was plucked and shared as snacks (Field notes 2011). During the field visits inside the forest, when Shruti accompanied me (see 3.5.), I aimed to find out more about the purpose of some collected items in order to make sense of the observations recorded in my field notes. But, at times my curiosity on different fruits and leaves was met with reservations and people just laughed or did not respond to what I asked. A conversation at ease could suddenly turn into a displeasing situation in which people seemed to feel under investigation (Field notes 2011). As outlined in the methods chapter (see 3.5.) questioning that was experienced as intimidating rather than encouraging by the people was avoided. Thereby, the concern of *how* data was gathered is extremely relevant. The reason that lay behind people's un-comfortableness might be linked to the uncertain situation of *allowed* or *authorized* appropriation and explanations on why an item was collected was often attended by a remark: "*but the forest people won't allow it, they tell that we should not go*" (Interview 6, 30.8.2011). These *relational* references suggest that access *rules* are inconsistent and boundaries are provisional. Another reason why people may feel uneasy explaining the utilisation to *outsiders* is connected to an unequal relationship between the researcher and the *researched*, addressed in chapter 3.6. The statement "*some people take wild leaves to flavour their rice, but in my house no, we don't use that*" (Interview 2, 24.8.2011) suggests that some resource utilisation may be rated as pejorative by *outsiders*. Fortunately in the case of utilisation I could always ask C. Madegowda at the field station who knew a lot about different forest resources and how they were used.

Some natural resources, such as the commercially qualitative strong NTFP *amla* involved everyone in the *podu* community and transport of the fruits was organised with container trucks. One woman mentioned the unfortunate point in time of my fieldwork, because I would not observe the busy *amla* harvest, which normally arouses research interest (Interview 1, 2, 16). In contrast does the collection of honey, at least for commercial purpose, only involve special honey harvesters and one woman explained:

⁴⁸ *Sambar* is a popular dish in southern regions of India; it is a vegetable stew or chowder based on a tamarind and pigeon peas broth typically varying among states and environment.

“We collect wild honey, see the bees go to different flowers and make honey, it creates by itself, nobody cultivates bees for honey. You both got a little wild honey yesterday, you tasted it, you liked it? If it is season harvesters will go and collect it [...] but amla we collect a lot. When it is ripe, we will collect it. The amla trees are there and bear the fruits [...] we also make pickle out of amla or we sell it” (Interview 2, 24.8.2011).

My research showed that community members considered the preservation of resources, other than the Indian gooseberry, honey, some herbs and medical plants not feasible and presumably it is also technically difficult. Thus, most of the collected forest resources are utilised immediately and accessibility typically fluctuates with the seasonal variations. Wild honey, a lucrative NTFP, is also recognized to have important medicinal benefits and is harvested during the monsoon months of April to June and again in November. When organised honey collection begins, the harvesters get equipped with cans and some other borrowed devices (cf. Interview Prabhu, 13.9.2011). Usually a group of men applies specialized methods and engage in honey collection, however the formation can vary from year to year also depending on the numbers of colonies available. As regeneration of bees, harvesters usually leave some colonies untouched (cf. Madegowda 2009:69). People explained that they sold the majority of collected honey due to usually good profits. They would only keep a small portion for themselves since *“we require it as medicine, it is good for burns and cough”* (Interview 13, 13.9.2011). In terms of other medicinal benefits obtained from forest interaction one man explained that:

“[...] there was plenty of medicine in the forest available, previously our people used to burn the forest, to develop the forest, but now even if we search for it, medicinal plants have disappeared” (Interview 5, 30.8.2011).

Traditional knowledge on medicinal plants was usually passed on orally and people I talked to were unaware of any form of recording. Moreover, people stressed that the decrease in availability of medicinal benefits was troublesome and that appropriate measures to halt the decrease are needed (Interview 5, 11, 14). Additionally to traditional healthcare, alternative modern medicine is prevalent in BRT through the

NGO *Vivekananda Girijana Kalyana Kendra*⁴⁹ (VGKK) since 1981. Towards the end of the fieldwork I saw a woman walking back to *Kalyani podu*, carrying a handful of pills and a bunch of leaves for her sick mother at home. Being on her way back from the VGKK hospital and pharmacy she explained that she collected these leaves in the morning because they have important medicinal benefits. However due to the severity of her mother's illness, she also got pills from VGKK, which are provided free of charge, "*no money is taken, Dr Sudarshan is supplying this*" (Interview 11, 10.9.2011). Whether the easy access to modern medicine has brought a loss in the unique traditional medicinal knowledge or changed in health status (cf. Ghosh, Barbhuiya, and Chowdhury 2007:1689) shall not be discussed in this thesis. But given the views on altering forest conditions and the shortage of medicinal plants available in the forest, it has to be mentioned in this context. People expressed that they consider the shortage to be the result of the prohibition of anthropogenic seasonal burnings (see 5.2.) and it is deduced that actual practices of utilisation were continuously adopted.

5.1.3. Commercial Utilisation of *common-pool resources*

Collection of forest products is not only important for subsistence but also for the purpose of selling, whereby *amla* remains the most important source of cash income from the CPR in BRT (cf. Shanker, Hiremath, and K. Bawa 2005:1878). Apart from intended commercial utilisation, it was noticed that people from *Kalyani podu* also spontaneously sell collected resources in the surrounding area of BR Hills under certain circumstances.

"I go with my goats for grazing, from that area, I will also bring firewood for my house. If somebody asks urgently for firewood I will sell it and I get INR 20 for it. Other than that I will only collect for the society⁵⁰. They will tell us and then we will collect amla, honey and lichen. If they don't tell us we cannot start collecting it [...] we are coolies, right, we have to feed our stomach and we go, we get paid that day" (Interview 8, 6.9.2011).

⁴⁹ VGKK was founded in 1981 and run a primary school and secondary modern school (also run as a residential school for children coming from interior parts of the sanctuary) in BR Hills. While compulsory education up to the 8th grade is provided there, higher education is not available within BRT. VGKK also run a hospital with free medical supplies and they collaborate with ATREE in monitoring programmes.

⁵⁰ *Society* refers to the cooperative LAMP Societies established in India in the 1970s for integrated tribal development in regions with significant tribal populations.

Observations and conversations showed that people attached little priority to cash income from informally sold forest products “*firewood I take for my house, only sometimes I sell a little bit up the hill, but there is not much gain*” (Interview 1, 23.8.2011). The phrase “*up to the hill*” denotes the temple village area at the foot of the BR Temple site⁵¹ inhabited by *non-tribal* people. However, much more important in terms of cash income are the specified NTFPs that are collected and sold through the government run cooperative *Large-scale Adivasi Multipurpose Society (LAMPS)*, which hold the harvesting rights. “*It’s a kind of vehicle, communities collect NTFPs and they cannot bypass the society [...] when they sell it, it has to go through LAMPS*” (Interview Setty, 10.9.2011). The operating process runs internal, first the board will set a price based on the market, they will inform the agents (in every *podu* there is at least one agent appointed), then people collect and sell it to the agent who sells it to LAMPS, who will then again sell it to a tender (cf. Interview Prabhu, 13.9.2011). The functioning of LAMPS in Karnataka was controversially debated in the 1990s and under harsh criticism as neither economically viable, socially empowering, nor ecologically sustainable due to structural reasons (cf. Sharachandra and Rao 1996:92). I cannot go into detail within the scope of this thesis but touch upon the current concerns in BRT that emerged. *Amla* and honey were determined to be most important in BRT (in terms of subsistence and cash income) whereas lichen has no other purpose except cash benefit. Around the end of August I was told that lichen season was just about to start but the attempts to attend a group of collectors remained unsuccessful. One man explained that prices for lichen have gone down a lot and he has to see whether it is worth the effort another man added that no one can go since *pooja* has not been done (Field Notes 2011).

There are three LAMP societies associated to BRT that annually set prices per kilogramme and adjust the respective quantities that are accepted. At least 75% of the eventual sale price of the products by the LAMPS are returned to the people who collected them (cf. K. S. Bawa, Joseph, and Setty 2007:290). The particular items that are *authorised* were specified in annually renewed agreements between LAMPS and the

⁵¹ The temple village is in contrast to the people from the *podus* inhabited and settled inside the Sanctuary only after it was established in 1974. BR Temple village is also the only place where for example *ragi*, rice and some vegetables or fruits could be bought. As a popular tourist destination it can be very crowded on the weekends and was extremely littered during the eight weeks time when I was in BRT.

forest department. The number decreased from 24 that were agreed upon in the nineties and the early noughties down to currently only three items *amla*, lichen and honey (cf. Interview Prabhu, 13.9.2011). The 2004 amendment to the Wildlife Protection Act introduced a national ban on the collection of any forest products for commercial purposes in all wildlife sanctuaries. The ban was ultimately implemented in early 2006 and “no NTFPs were allowed to be harvested from BRT for three years. The *Soligas* [living inside and around the sanctuary] had to face a complete lack of income from NTFPs until of course the Forest Rights Act came into force in 2008” (Interview Rai, 20.7.2011). The decision on a NTFP ban directly impeded the efforts of *Soligas* to meet their livelihoods ceasing rights to access and utilise forests within the sanctuary boundaries. At the same time it dismantled the community to exercise stewardship in the forest (cf. Mandal et al. 2010:268). Dixit Kumar, the Deputy Conservator of Forest (DCF) who was in charge of BRT in 2004 argued that stopping NTFP collection would create suffering and backfire on conservation itself, and basic livelihood activities should be considered “bona fide” and not “commercial” (cf. Kumar, cited in Kothari 2007). At a national legislative level the ban persists but in BRT oral *authorisation* is given for particular items within particular time periods in toleration of the DCF in power (pers. comm. C. Madegowda, 26.7.2011). Under the current forest regime the use and access to forest resources has tightened and livelihood options also in terms of subsistence collection was subject to more stringent control.

“The forest people say they won’t allow to collect lichen, honey this year [...] last year they allowed us, that time everybody went when it was the season for it [...] they won’t allow us, they say it is their forest, ‘don’t cut the trees, don’t take firewood’, they say [...] they say ‘take it – but hidden from our eyesight’ it should not be visible to them, so we bring it hidden” (Interview 6, 30.8.2011).

In this situation of informal *quasi-authorized* utilisation (commercially as well as for subsistence purposes) people are left to their creativity and ability to adapt their subsistence activities and strategies. The perception of *their* or *our* forest, the question of *whose forest is it* but also if ownership is factually important to be defined also came up in interviews (Interview 14, 15). Against the background of long-enduring utilisation my personal assumption – that people would *claim ownership* over *their* forest – deviated from the collected empirical findings. People specified on the central issues of

access, control and forest responsibility rather than expressed assertions of ownership, yet these issues are closely tied. Interestingly this emerging coherence also frames the concept of *common-pool resources* itself. Because the notion of ownership in *CPR* situation is in the background while the elements of access, rights and control are dominant (see 4.2.). The quoted statement above (Interview 6) portrays the situational conflict resulting from contestations over access and control, which translates into a situation of unclear institutional practice and creates conditions of insecure utilisation for local *users*. The situation lacks predictability of utilisation and how local *users* devise and adapt their practice alternates. While certain undertakings are immediately undermined and sanctioned by official authorities – for example cutting of trees – other utilisation practices are *allowed/authorised* and *users* may even qualify as *claimants* (cf. Schlager and Ostrom 1992:253) – as for example, it is the case for monitoring of *amla* and other NTFPs. It appeared that the *users* were well informed about the state of affairs and over time are able to find patterns of utilisation and practices with limited countermending of department authorities. The local specific emergence of these *institutions*, however, is argued in line with the classical institutionalist view (see 4.1.) and as facilitating coordinative behaviour in the research context. Thus the ways of utilising forests had evolved as undirected adaptations in the face of new circumstances and experiences. They are classified as changing over time, as transported by various carriers and shaped by cultural and historical forces (cf. Scott 1995:33). This understanding of change and adaption of the institutional system takes place at the level of day-to-day activities – reproducing collective action as well as through formal claims of rights (see 6.1.) that accrue from customary practices – it is interpreted as constant re-negotiation process.

When I asked that woman what would happen when she became visible to department officials, she sounded resolute.

“When they see us with firewood they shout, and untie it and burn it. Now there is someone from our people, he will help us [...] he tells them that our people don’t understand, ‘so you don’t trouble them, they are illiterate’ he will say” (Interview 6, 30.8.2011).

Within every *podu* one or two people⁵² act as contact persons whenever there are direct conflicts with forest authorities or access problems. In *Kalyani podu* this person also functioned as LAMPS agent and was politically engaged as a member of the *Panchayat* (see 2.4. footnote 12). Together with a second person they were also the representatives in the community based organisation *Soliga Abhivrudhi Sanga* (SAS) under the umbrella organisation of *Zilla Budakattu Girijana Abhivrudhi Sangha* (ZBGAS). At large there are four SAS in Chamarajanagar district involved in activities relating to the rights of tribes, ensuring that government-allocated funds for tribal development are shared ‘equitably’ among the members of the community (cf. K. S. Bawa et al. 2007:293). Each SAS has 21 members from all *podus* of the respective taluks⁵³ (pers. comm. C. Madegowda, 20.8.2011) and people from the *Soliga* community elect their representatives. These representatives are referred to as *tribal leaders* and usually are also those who participate in workshops, strategic training programmes and who are first to get informed about changes in legislations or other political events (pers. comm. C. Madegowda 20.8.2011). Community members who were aware of the on-going efforts supported SAS as an organisation and their activities. In matters of forest governance SAS takes on the role of social-economic advocacy of forest utilisation and strengthens the perceptibility of the local perspective.

It is noteworthy that SAS was initiated in late 1995, by Dr H. Sudarshan, who also founded the NGO VGKK. Dr Sudarshan is still mentioned as an important person who, as put by one woman “*has given us much help. He made VGKK for us madam, from when I was so small, he has supplied so much for us, he has looked after us very well*” (Interview 11, 10.9.2011). Another reference in this respect was made by an elderly man saying, “*a long time ago Dr Sudarshan came and gave us knowledge, after him nobody came, nothing from the government, people like you come to the podu but that is all*” (Interview 13, 13.9.2011). People very strongly linked the supportive measurements to the person Dr Sudarshan and expressed their high regards (Interview 3, 11, 13) yet the established facilities were not always entirely endorsed by community members. Narratives on the local school for example were attended by trouble and poor results and some people portrayed themselves as illiterate and unknowing (Interview 1,

⁵² As far as I am aware in these positions of tribal leaders are only held by men.

⁵³ In Karnataka *taluk* is the name for a sub-district, an administrative division that comprises several villages or village clusters.

7). Throughout the fieldwork period it seemed that people tended to subordinate their own views or opinions and argued that they did not know something due to their short school attendance (Interview 6, 7, 11). Their attitude could be expository for experiences with *outsiders* (external authorities, researchers, tourists, village inhabitants, etc.) and as resulting from their personal schooling experience.

Hegde et al. (1996) found that in 1996 the income from eight NTFPs, extracted for commercial purposes and marketed through LAMPS, amounted to 47.63% in exterior parts and 60.44% in interior parts to the household gross income (cf. Hegde et al. 1996:248). Although engagement in other vocations was noted as important, the collection of NTFPs was found to constitute the most reliable source of income. The study highlighted that low incomes from NTFPs was counteracting sustainable harvest and conservation, and stresses that poverty potentially leads to an overexploitation (cf. Hegde et al. 1996:251). To discuss this argument at length would go beyond the scope of the thesis, however, the availability of exit opportunities and respective gains of NTFP collection are both linked to questions of access and management responsibilities. NTFP collection does not occur in a vacuum, it was always regulated through management objectives set under the mandate of the forest department. Commercial collection was controlled and governed via LAMPS until such times when the drastic regimentation was introduced at a national level in 2004. In the recent years collection for LAMPS continued again but is rendered uncertain from current harvesting time to the following. It should be remarked that people's NTFP collection was attended by long-term participatory resource monitoring from 1994 (see 5.1.3.). Important in this context is also the perception on resource conditions (see 5.2.), especially the decline in *amla* trees that also impaired potential and realised collection. While the focus on fruit harvest as the cause for the decline was found to be misplaced (cf. ATREE 2012:13) the role the people assumed appeared defensive:

“[...] there have been a lot of studies about forest and amla. Now they are saying don't cut the trees, now all trees have died; when we used to harvest earlier there was no sickness of amla, it used to grow plentiful. Now one by one people are coming and they have different ways of thinking⁵⁴, [...] the people writing about

⁵⁴ Literally: “*they have different heads*”

that and the government is saying that we are spoiling the forest” (Interview 13, 13.9.2011).

The feeling of antagonism and inconsistent approaches is also reflecting the people’s and other actors different envisioned procedures to management. It appeared that mutual recriminations were far-reaching, although regular interactions between *users* and FD or researchers may not be assumed to be always rival (Field notes 2011). It is argued that this considered inconsistency may have impaired an asserting of *users* role in decision-making and their claim in forest monitoring for utilisation. Moreover the involvement has to be linked in respect to other factors including alternate income generating possibilities that are available and viable and their evaluation of the *changing* forest and resource conditions as well as the specification of the *user* group(s).

5.1.4. Alternate Income Generating Options

A 2009 study on NTFP collection states that *“the Soligas lost 85.2% of their total cash income due to the ban in 2004 [...] but could increase their total income from other sources by almost 40% after only two years”* (Sandemose 2009:49). The increased significance of alternative options to generate cash income also repeatedly came up in the interviews. However, work on a daily basis, referred to as *coolie* work cannot be considered as a new phenomenon. Morab (1977) already reports that:

“[...] people were employed in the fields for various agricultural activities, such as, preparing fences, weeding, guarding the crops, harvesting, etc., as casual labourer. Mostly, woman and youngsters are employed for this work; men are engaged only to do hard tasks like cutting trees, etc. [...] The daily wages for a man was fixed as Rupee one and fifty paise⁵⁵, whereas one rupee was paid to a woman labourer and youngsters were paid only seventy five paise” (Morab 1977:47).

Pertinent narrations by elderly people point to the increasing importance of *coolie* work because money is needed for more *things* now and *“the value of everything has gone up even the coolie wages have gone up”* (Interview 7, 30.8.2011). One young man commented on his work conditions and the irregularity he has faced since he finished

⁵⁵ One rupee is equal to 100 paise. As of 30 June 2011, lower denominations than 50 paise have officially been withdrawn.

school (cf. Interview 12, 10.9.2011). At the time of the interview he had worked already more than a month at a construction site close by but:

“[...] at this site only 15 days of work are remaining. After that I don't know, wherever there is work in BRT I will take it. Otherwise I will be home, or I will roam the forest and come back [...] the value for lichen has to be set, then we know how much we will get and we will start collecting. After that I will see, it is like that, you can not know” (Interview 12, 10.9.2011).

The overall situation of daily work for the people from the *podu* was argued to be very irregular and hard to predict (Interview 6, 8, 12, 13, 14). During harvesting season the *non-tribal* farmers, who often held several acres of land hired people from the *podus* for casual labour (pers. comm. C. Madegowda 20.8.2011). Along the street from ATREE field station to *Kalyani podu* I noticed banana and coffee plantations widely permeated by huge trees enlaced of pepper plants⁵⁶. These plantations either had electrical fences or were equipped with dead wire and wooden constructs and could clearly be distinguished from the smaller and less equipped fields and plantations that belong to the *Soliga* people and located closer to the *podus*. For seasonal labour during harvest people were temporarily hired and also travelled outside the sanctuary (cf. Sandemose 2009:40). Besides employment at plantations, the work on construction sites provides an important source of income. It consists of sporadic work at private houses, buildings for the purpose of tourism, road works or occasional work for the forest department for various forestry operations such as clearing of weeds and control of fire (cf. K. S. Bawa et al. 2007:289). Some women talked about their work as house servants for some of the farmers as well as people from BR Hills village but avoided speaking about where and how frequent their employment was. Only a few people from *Kalyani podu* had fix employment and people complained about the limited availability of fix employment inside the sanctuary (Interview 1, 8, 12). In general there are jobs available at LAMPS, where people are employed as agents, the VGKK provides positions for maintenance work of school and hospital buildings, ATREE employs around fifteen people from the *podus* mostly as field assistances and under the forest department a few jobs under

⁵⁶ I was told that coffee plants would not need much sunlight and could well be cultivated with pepper.

group ‘D’ posts⁵⁷ are available. To some extent also tourism may be identified as an option to generate some income for the local communities. In BR Hills the touristic activities span from daily visitors of the temple site to upscale tourists that stay for a weekend or even longer. There are two *Jungle Lodge Resorts* within the sanctuary⁵⁸ and some privately rented out rooms around BR Hill Temple site but not from the *Soliga* community (Field notes 2011). On-going tourism was labelled as *eco-tourism* that is by definition sustainable, low-impact as well as empowering for local communities and *allowed* in wildlife sanctuaries and tiger reserves (cf. Presentation Das, 18.7.2011). In a presentation on “Eco-tourism in BRT Wildlife Sanctuary” at ATREE office in Bangalore on 18.7.2011 Suchismita Das, who works on her PhD on the issue has concluded that the scope of which eco-tourism would benefit *Soligas* is assumed to be very limited. Using a Gramscian understanding of power she states “*empowerment of Soligas in BRT could hardly be realised because means and ends were predefined by the forest department*” (Presentation Das, 18.7.2011) because FD had and exercised the decision-making power on tourism. It was noticed that people from *Kalyani podu* were generally little concerned with touristic activities (Interview 1, 6) and also direct interaction only took place when Jungle Lodge tourists guided by an uniformed field assistant visited the *podu* and walked through the area when some children sold flours to tourists at the temple sites or at weekends (Field notes 2011). In a personal conversation with Nitin Rai he recounted that in one of the last workshops people from interior parts of the sanctuaries mentioned that they were restricted access to some places due to touristic wildlife tours. FD authorities told the *Soligas* that tourists must not see them inside the forests on their jeep safari tour because they came to see the tigers (pers. comm. Rai, 4.9.2011). The promoted picture of experiencing pristine wilderness – eying a tiger shrouded by the thick jungle – is assumed as a *constructed* notion and can have implications for people to access places. However, this issue cannot be treated more in detail within the limits of this thesis since it would open up a whole new spectrum of considerations.

⁵⁷ Group ‘D’ posts include forest watcher, attenders, caretaker of forest lodges, gardeners, cleaners, or watchmen etc. and ranks at the lowest form of employment within the Indian Forest Service. For an official list see http://www.karnatakaforest.gov.in/English/aboutus/aboutus_orgnz.htm. Last access: 7.8.2012.

⁵⁸ Whereof one lodge was located between the ATREE field station and *Kalyani podu*.

By an impossibility of local communities to engage in any activities or lower-impact undertakings, tourism is not further considered but could be thought along against the background of diverging interests in forest and its utilisation and/or conservation.

5.1.5. Location and *user* group(s)

As outlined in the description of the study area above (see 3.1.2.) many people from *Kalyani podu* were engaged in farming. The problem of crop damage caused by wild animals was often brought up that the fundamental reason was the particular location of the *podu* next to the lake and adjoining to the forest (Interview 4, 6, 9, 10). Wild animals would come to the lake for drinking and because “*the ragi samplings are of much flavour to them, it’s like sugarcane in the plain*” (Interview 4, 25.8.2011), the unfenced fields had to be watched during night times after the samplings sprouted. In principle there exists a legal provision for compensation by the Indian state governments in case of crop loss through wild animals around wildlife sanctuaries and national parks. People from *Kalyani podu* seemed to be not aware of it and C. Madegowda stated that compensation for crop damage is not common and as far as he was aware not one single person ever applied for compensation for damaged harvest caused by wild animals in BRT (pers. comm. C. Madegowda, 11.9.2011). People expounded vividly that the difficulties owing to the specific geographic site near the lake were the natural occurrence and could not really be avoided (Interview 4, 25.8.2011). However, for example the trouble with soil degradation caused by the inability to shift sites of cultivation at least a little bit every year. But an attempt to feasible improvement of land and natural resources would require increased local authority, “*but nobody will allow it, we have no saying in that*” (Interview 15, 14.9.2011). This issue of obtaining benefits, especially provisioning services from the surrounding land is linked to the possibility of decision making over land use and forest use.

“Yes this is my own land, and over there is my father’s land. It is more than enough and it is difficultly for me to fully work on it and finish it [...] we need to keep it well maintained then only we will benefit [...] if there is excessive work elsewhere I will also do coolie but otherwise I have a department job. I will go

there for work and when I am free I work on my land here” (Interview 4, 25.8.2011).

In terms of land ownership claims, this man’s statement stood out against the other narrations because of his assertion that he owned the land he cultivated. Despite being aware of the court case, he was certain that it he would be granted the land right if he continued to cultivate it. His higher socioeconomic status in terms of income, occupation and also access to land for cultivation became evident through his statement. Raising the question whether he had goats and sheep and whether he is also engaged in grazing he responded, *“my family has goats and sheep, someone will graze them but I don’t go to the forest”* (Interview 4, 25.8.2011). I point out his explanations at length because of theoretical considerations, dealing with different dimensions of heterogeneities within *user* groups. Thus *institutions* in regard to resource utilisation and corresponding *lived practice(s)* manifest interest that might vary within a *user* group (as well as amongst different *user* groups), and overall should be considered within the broader economic setting in which *institutions* operate. Interests cannot be assumed to be stable and priorities on forest utilisation are dynamic and may be open to change. Bose (Interview 25.7.2011) notes that the shift from forest subsistence based economies to non-subsistence economies has to be taken into account when looking at forest utilisation and questions of forest governance (cf. Interview Bose, 25.7.2011). These considerations are also linked to the question of facilitating conditions for obtaining direct benefits such as provisioning and cultural services and the informed institutions and behaviour towards the *CPR*.

Another insight in regard to agriculture and forest is the aspect of social stratifications within the people from *Kalyani podu*. The group of *users* is in fact a relatively small and interlinked group, however people with higher economic and political assets may be marginally lesser affected by for example changing patterns of appropriation and use. This *‘distribution of interests’* was raised by Ostrom (2005) pointing to the importance of similar impact on appropriators with diverse economic and political assets that would enhance the likelihood of formation of self-governing structures (cf. Ostrom 2005:244). Generally, can the group of *users* hardly be understood as a clearly demarcated homogenous entity, by rational only concerned with maximising their individual utility but people’s engagement in forest utilisation may rather be understood as a continuous

balancing act. It is understood as a performance of diffusing or bundling interest and behaviour is assumed as thoroughly ‘context-rational’ (cf. Vatn 2009:303) instead of ‘egoistic-rational’. Following the *classical* idea that *institutions* define which rationality is expected (cf. Vatn 2009:303) both the communication between *users* and also with other *user groups*⁵⁹ as well as the mutual overlooking of *users* activities by themselves is a specific characteristic of the situation. The adaptations and balancing in people’s utilisation and ability to obtain benefits has overall be linked to the overarching idea of a classification (and conceptualisation) of environmental services as goods that are subject to an assessment of value. To some extent this is incorporated by the external regulatory system of management but is difficult to arrange with the *users lebenswelt* and the expressed approaches to forest.

5.2. Views on Resource Conditions

To what extent people engage in forest utilisation is also linked to their views on resource conditions, their perception of the causes as well as their opinion on the effects of their practices. Approaching forest interaction in conversations people commonly recalled the particular importance of forest fires and drew a comparison between the way forest and resources were previously sustained and how provision and consistency is perceived now (Interview 1, 3, 7).

“In my grandfathers time, the forest was very different [...] when I was a child I remember it, the area was beautiful. There were so many grasslands for grazing. Forest trees were healthy, plenty of genshu and gedde. But they have stopped forest fires, it is difficult now [...] it needs to fully burn, then it grows very well. You have seen there is only lantana, there is nothing now [...] The people who have taken over the forest, the central government, they control it now, and they won’t allow anything” (Interview 3, 25.8.2011).

The prohibition of forest fires marks as a decisive point in time since it delegitimized the traditional property rights structure and finally disabled institutional arrangements that regulated forest interaction. The controlled burning of undergrowth was a

⁵⁹ In the scope of the thesis reference to *users* and *user groups* denotes solely those who reside inside the sanctuary and have entitlements to forest utilisation and not to *users* such as tourists, although both directly interact with the landscape.

traditional management techniques of *Soligas* in BRT for centuries and has shaped the entire forest system (cf. N. D. Rai, Madegowda, and Setty 2007:87). Anthropogenic forest fires can have profound implications for forest structure, composition, and functioning at multiple spatial scales (cf. Hiremath and Sundaram 2005:27) and were used in order to promote growth of grasses for livestock and to sustain and systematically monitor forests (cf. *ibid*).

“[...] the government, the forest people told us to stop putting fires [...]our people had kept the forest so clean, it was no trouble, we were born and brought up here, we told them we cannot live without the forest. We know the best system to keep the forest properly, but that time the government was coming from different places [...] the forest became overgrown with lantana, there is nothing that can be done [...] even if the government gave us some money and we can clear it, still lantana will come back, the government has spoilt it” (Interview 13, 13.9.2011).

In interviews and conversations people framed the prohibition of forest fires as arbitrary, having far-reaching and irrevocable effects. The argument that the absence of fire caused severe negative impact on the forest condition especially in terms of lantana overgrowth was prevailing (Interview 1, 3, 5, 6, 8, 9, 10, 13, 16). Utilisation practices and coordinated behaviour are connected to these personal views and hypothesised as being under constant adaption and again the depiction of humans as product of the social conditions is stressed. It was highlighted that the decrease in *amla* (trees and fruits) originates from the infection of mistletoe that is linked to the suppression of fire and now *“the amla trees are slowly dying, there is mistletoe growing on them and without fire the trees will die”* (Interview 8, 6.9.2011). The fire regime has also facilitated collection of NTFPs and was expressed to produce fresh grasses as fodder for their livestock and wildlife and enhance growth of medicinal plants and greens and tubers. The traditional fire management system originates from centuries of engagement with the landscape and may be treated as collectively created heritage of context-sensitive knowledge, following its specific institutional logic. In line with a social constructivist view (see 4.1.) it constitutes a situated perspective on forests in which *“forest fires are the medicine for the growth of trees”* (Interview 5, 30.8.2011). Thereby it is important to differentiate between the *Soligas* controlled burning practice as part of the traditional forest management and *wild* fires. Ever since the colonial intervention

and introduction of *scientific forestry* at the end of the 19th century (see 2.1. and 2.2.) official policies in India advocated the suppression of fires (cf. ATREE n.d.). Also in BRT, the Karnataka forest department banned the use of fire after the area was declared a wildlife sanctuary. Thereby the traditional system of management became delegitimised and undermined by being replaced by international protected areas management guidelines. This is argued to also mark the beginning of the confrontation of manifest behaviour that is embodied in conflicting institutional systems.

In BRT forest fires became very rare but at times they still occurred (cf. Rist 2009:33). In March 2007, for example, several incidents of fire took place within BRT and resulted in considerable conflict and tension (cf. *ibid.*). The FD suspected *the Soliga community* to be responsible for the wild fires (in retaliation of the NTFP collection ban one year earlier) while the *Soligas* denied the accusations and put forward the lack of preventative measures taken by the forest department (cf. Kalpavriksh 2007:5f). The situation calmed down again and relationship between *Soligas* and FD enhanced again and is generally described as positive (cf. Interview Rai, 20.7.2011, Interview Setty, 10.9.2011, Interview Bose, 25.7.2011). Interestingly it was found that *users* interact regularly with local FD officials, which signals a strength in coordination between state and community. As they also participate in workshops together (cf. ATREE 2010), they communicate and seek for solutions that are socially and economically compatible (cf. *ibid.*).

Within the complex social and institutional setting sanctuary management challenges – such as fire control, are intrinsically connected with the issue of how and where these management *rules* were created. Conflicts over *rules* correspond to divergence in emergence of them and conflicts over generated knowledge and the institutional logic that it is based on. To observe how these conflicts translate into practice and trying to understand how the people from *Kalyani podu* view it, was an essential research aim. Through participatory observation and interviews the strategies that *users* pursued and institutions that governed interactions with the forest were recorded. The problem with *rules* or *formal institutions* that lack context-sensitivity is that they may find little acknowledgement (cf. Ostrom 1995) and may not be interpreted as meaningful by *users* who are the closest to interact with the landscape. As a result implementation becomes difficult, costly and/or requires disproportionate operating expenses as in expanded

oversight and control over the territory and *rule* compliance. With regard to the question of how institutions emerge a distinction between self-emerged and designed institutions could be drawn that also vary in their way of acceptance and enforcement. This subject matter was discussed in the theoretical chapter to the effect that *rules* are more likely to be respected by local people if they had a role in creating it (cf. Ostrom 1995:93 - *third design principle*). *Rules* in this context include appropriation, provision and management decisions and are in the BRT setting distinctly determined by the Karnataka forest department. In line with other ethnographic findings (cf. N. D. Rai et al. 2007:89) people from *Kalyani podu* in the interviews unanimously expressed that the unprecedented changes in forest vegetation were linked to the absence of fire. It is interpreted that some people resigned to the fact that severe implications for their livelihoods exist due to the worsening forest conditions and that the situational impairment of the resource condition will remain (Interview 3, 6, 9). Local and institutional opinions disagree over the appropriate management responses (cf. Rist 2009:13f) also because perceptions on forest conditions and the undesired effects are presumed to vary between *users* and state government. One man explained:

“It was around 20 to 25 years ago, when there was many more places that we went, but the paths cannot be found, it is not possible to go there now. [...] It has changed because the forest has changed, many areas are overgrown, now there is no single way to stop lantana [...] I cannot say what has to be done, the government only has to answer that” (Interview 13, 13.9.2011).

The invasive species lantana (*Lantana camara*) also has officially been recognized as affecting native biodiversity in BRT and interfering with overall ecosystem functioning (cf. ATREE 2012). Rai (Interview 20.7.2011) explains that efforts to control further expansion may not go far enough since the problem is addressed budgetary rather than ecologically (cf. Interview Rai, 20.7.2011). ATREE has undertaken long-term monitoring in BRT for more than a decade and in partnership with the Karnataka forest department the research organisation has examined the native-species restoration options for regeneration (cf. ATREE 2012:50). All stakeholders, including the forest department, the community, VGKK, the civil society seem to become aware that further lantana invasion is problematic (cf. Interview Setty, 10.9.2011). One man voiced his scepticism on the sincerity of the approach to counter lantana invasion *“they will only*

clear alongside the road so you won't see that it is all overgrown [...] we told them and from ATREE they showed them all the tests ... I don't know if what the government took from the tests" (Interview 13, 13.9.2011). Local perceptions on the necessity to control lantana growth are viewed under the aspect of utilisation nevertheless argued benefits are also connected to ecosystem functions and services.

The findings on people's estimation of the correlation between their own activities (particularly harvesting and utilisation practice) and its effect on forest and resource conditions were rather undetermined (Interview 11, 12, 14). It is ascribed primarily to experienced methodological constraints. While it turned out to be a difficult task to explore opinions of causes and effects, the ambiguities arose around the question of what was considered harmful for the forest – apart from suppression of fire and other restrictions on traditional management. In the course of the fieldwork I argue that people became aware that the purpose of my research was not to quantify the ecological outcome of their collection practices but to understand the setting of access and practices. Despite that personal concerns were raised on how this collection of *data* may affect their situation (Interview 13, 15) people adopted a kind attitude towards my enquiries (also see 3.3.). In hindsight I reconsidered my own approach on this point at issue apart from the overall argument that studying *institutions* through observation of manifest behaviour in a two-months fieldwork period is a critical endeavour. First I revisited the idea that inquiring on people's opinion on *individual influence* on a micro-level in a *de facto* hierarchically structured management situation of restricted participation in decision-making and unclear forest access, may questionable. Secondly, as remarked in the third chapter (see 3.6.), a researchers anticipation of *reflected practices* might be problematic in a concrete situation. Nonetheless allowed the ethnographic research approach to gain other insights on *users* view and strengthened *speaking with* the people about changed characteristics of utilised resources. Thereby it also facilitated participation to the effect that it rendered, for example, problem definition possible and it may contribute to raised awareness when considering *ecological management* objectives – based on knowledge, that cannot be assumed complete. By reconsidering objectives and seeking for it to reflect local people's preferences and interests in utilisation and their management responsibilities, this could provide a different mechanism of *rules* compliance and illuminate and strengthen

commitment. For instance, could a joint invasive species approach that embraces people's socio-economic realities meet the criteria of context-sensitivity and be ecologically viable, while at the same time could the benefits from the forest remain heterogeneous.

5.2.1. Monitoring and Sanctioning

As stated above, the forest area as *common-pool resources* is controlled under the state authority and management is under the provision of the wildlife sanctuary management plan. While direct *users* and department authorities interact at different levels the issue of experienced control and limitation was often raised in interviews (Interview 2, 6, 8, 13). Encounters take place in direct contact during grazing and collection but also at created platforms for dialogue, such as collaborative workshops (see 5.1.3.). Yet the relevancy of monitoring and sanctioning in utilisation of the *common-pool resource* is best addressed by focusing on particulars of the institutional regime through which the forest is controlled and managed. The ecological monitoring function of the FD authorities (including a few *Soligas* who were employed in 'D' posts see 5.1.4.) was expressed as the most visible (Interview 3, 6, 8, 12). The FD was vested with widespread monitoring powers and regularly visited forest areas but also oversaw the dwelling zones.

“They keep taking rounds in the forest and in the podus, our own people are there, they are called watchers. On their roams this forest people [ref. to FD] will ask us if we sighted wildlife or if anything obscure was inside the forest, this is how they know” (Interview 8, 6.9.2011).

Thus because practices of forest utilisation brings local *users* almost daily to various parts of the forest areas some monitoring functions overlap. This is not only physically noticeable, as in direct encounters inside the forest but also in complementary observations of for example poaching or wild forest fires. Anything unusual that is noticed in regards to wildlife or resource conditions is communicated to the FD authorities when they take their rounds (Interview 1, 5, 8, 14). During fieldwork there was only one incidence that I observed such a sort of “inspection”. I saw a group of six people from the FD (due to their green uniform easily identified as department

authorities) leaving *Kalyani podu* in a single file in the late afternoon (Field notes 2011). One woman explained that they would come around once a week, they talk to whoever is at home and make enquiries and today they came because of the elephant mother that roamed around the lake with her offspring during the last few nights (Field notes 2011). It is argued that monitoring is to some extent shared between *users* and FD whereby supplemented observations are available cost-free to department authorities through habitual contact.

More specific forest resource monitoring occurs in a more organised way in regard to commercially used resources (see 5.1.3.). ATREE facilitated participatory monitoring of local communities and has worked towards improved sustainable harvesting in order to enhance income from NTFPs (cf. K. S. Bawa et al. 2007:289f). These participatory approaches to resource monitoring started in BRT from 1994 onwards and were carried out in a more institutionalised manner since 1998 (cf. Rist 2009:58). Training programmes on sustainable harvesting were conducted on honey, lichen, gooseberry etc. yet communities are also pivotal actors in protecting the forest from wild fires (cf. Interview Setty, 10.9.2011) and thereby perform monitoring and exercise control functions. One man explained that the main problem was that even if low intensity controlled fires were allowed, they still could not be carried out because:

“the forest trees have all got lantana clinging up them. You cannot save it even with forest fires ... now all the big trees will also burn, everything will catch fire and after the burning nothing other than lantana will come back” (Interview 13, 13.9.2011).

When I asked about cases of observed *wild* forest fires the people’s responses were either disputing the occurrence or indistinct. Given the competing claims over forest utilisation it is noteworthy that *users* behave in effect cooperative towards FD instead of antagonistic in terms of control of fire and forest protection. The curtailment of their controlled burning tradition is deplored on the one hand but at the same time critically contemplated because of current resource worsening (see 5.2.). It is interpreted that the prohibition of fire that emerged from a certain approach to management of forests. It was first adopted by law, enforced through coercion by the authority system and gradually became transformed into a *rule* that is adhered to.

While in many parts of the country self-organised institutions that worked towards regulation of resource use broke down due to internal factors and external interventions (cf. Wani and Kothari 2007:10) the current regime in BRT does not provide for people's participation in the designing and planning arrangements. In the existing *common-pool resource* situation it seems institutions are primarily informed by external regulations and the situation is characterised by facilitating adjustment to regulative systems. Although the management arrangements towards the *CPR* is in an institutional sense multi-layered because people fulfil monitoring functions and exert influence it is inherently problematic that people's role and effort remains unremunerated.

6. Conclusion

The aim of this thesis has been to illuminate the situational conditions of people's utilisation in the *common-pool resource* situation in BRT wildlife sanctuary in Southern India. While the applied ethnographic approach allowed for critical findings in regards to the complex institutional arrangements, the methodological objective was to not to apply or derive at predictive formulas of human behaviour but rather to understand the *lived practice(s)*. Adopting a classical institutional perspective, wherein the notions of contestation and uncertainty are constitutive, the conclusions that can be drawn are necessarily conditional.

The use-related interactions of people from *Kalyani podu* with the surrounding forest areas were found to permeate important spheres of life, as means of subsistence and in respect to cultural relevance. Utilisation of the *common-pool resource* is outlaid as active process whereby people allocate their *time, labour, materials* and *knowledge* to the forest area and in return, obtain *benefits* for subsistence, commercial or cultural purposes. People's interactions with the ecosystem is categorised as informed by *institutions* and behaviour as shaped by cultural and historical forces (cf. Scott 1995:33). Encounter between various *users* and *user groups* that engaged in utilisation was observed to be relevant in the setting of *Kalyani podu*. Spatial overlap with other *user* groups enabled communication, exchange of news, problem resolution, that is being performed during grazing and collection practices. Inductively aligned to a socially constructed view of humans people's behaviour was found to be cooperative, responsive and coordinated to each other's activities (see 5.1.). With regard to sacred sites and cultural spaces of importance, which were visited on special occasions, the findings build on the elaborate map by SAS and ATREE on the *sacred sites* throughout BRT (see Annexe A.3). It is notable that this documenting process can be interpreted as a formal recognition process in support of *Soligas* historic presence in the landscape whereby local institutions become reaffirmed (see 5.1.1.). However, from a *lebensweltliche* perspective the formal recognition (through mapping and/or proceeding FRA implementation), verification (of for example traditional knowledge on sustainable harvesting of NTFP) and documentation (of medicinal knowledge), may seem odd since it is based on a different logic. Because processes to some extent were being voiced as beyond people's *own* scope of influence these controversies over different approaches

ought to be brought into accordance with people's *lived practice(s)* and their own interpretations of the setting.

The analysis of the *CPR* situation in BRT required also consideration of the diversity in subsistence use and commercial utilisation of the resource as well as alternate income generating activities including engagement in tourism and the issue of access to land. Furthermore people's view on resource conditions and the monitoring and sanctioning functions were brought forward. This appeared particularly relevant because choices on *CPR* were expressed differently and reviewing individuals' situations allowed for the localisation of interests in the utilisation.

The diversity in use of tangible products from the *CPR*, obtained through direct appropriation, typically fluctuates seasonally as well as with state intervention. Through external regulatory systems utilisation is rendered difficult or impossible and arrangements are provisional in nature. With regard to commercial utilisation, for example, the imposed regulations through the legislative amendment of the WPLA 2004 were utterly curtailing. After the national ban the circumstances changed and instead of annually renewed agreements for collection of – *amla, lichen, honey*, currently, entitlements are only *authorised* orally, as tolerated by the department authority (see 5.1.3.). Given that the centrally organised state management in BRT is solely targeted at biodiversity and wildlife conservation, the utilisation by *Soligas* of this highly contested forests, is elucidating. Within this context of situational contestation over particular portions of benefits also the unbalanced vesting of power is characterising the situation. People expounded on the experienced control and pointed primarily to the prohibition of anthropogenic seasonal burnings that was perceived as severe retrenchment in *managing* the *CPR* (see 5.2.). It is hypothesised that the continuous reprehension and regulations have shortened people's assertion of claims to access and decision-making on forests.

The particular provisioning and cultural services from the forest are highly heterogeneous and accessible under an institutional structure comprised by a complex system of customary and government *rules*. The state government acquired statutory ownership of the forest in 1974 when it became a wildlife sanctuary. The research setting, however, is not strictly conceptualised as *state property regime* since *state* property rights – as an important aspect of the institutional structure (see 4.4.) –

overlapping with customary rights/entitlements. Paavola (2007) argues that *state property* in effect can be understood as a form of collective ownership, in which the state manages the resource on behalf of its people (cf. Paavola 2007:97f). It seems appropriate to scrutinise this notion in aiming to seek for a compromise of *its people* and ask: who has a stake, who is benefiting from the resource regime and on behalf of whom is it managed – *its biodiversity value, nations species richness, its citizens, its environmentalists, its tourists, its local communities* – recalling the “old” question of *conservation for whom?* (Googh 1997) or respectively – institutions *designed* for whom? In accordance with the positional analysis in this thesis this questions are (suggested) to be thought along while looking at forest utilisation and management and its situational contestation.

In the research setting it was observed that in fact a number of *resources management regimes* that define access and scope of resource use practices exist at the same time. In *Kalyani podu* the regimes comprised private cultivated lands, state-owned forest areas, collectively used grazing pastures, clan specific sacred groves (protected by spiritual taboos), forest patches for NTFP collection collectively accessed, unclassed surrounding cultivated and uncultivated areas and the public groundwater (Field notes 2011). The *BRT forest property regime* features specific historical and cultural circumstances (see 3.1.2., 3.2. and chapter 5.) originating from people’s continual interaction with the forest landscape. As stated above already, the frequent interaction between local *users* and forest department authorities is a distinctive feature under the current regime and conditions of utilisation. *Relational dynamics* characterise the *resource system* and mirrors in existing conflict mechanisms or forms of contestation whereby adjustment of institutional structures and continuous utilisation becomes facilitated. In spontaneous encounters, conflicts were solved instantly or through informal mechanisms of resolutions but it is also common on a more organised level, namely through created platforms of dialogue, such as *inter alia* collaborative workshops organised by ATREE, SAS, ZBGAS, VGKK, Kalpavriksh and the FD. These inclusive efforts are argued to have strengthened coordination between state and community and other stakeholders although a lack of predictability (see 4.5.) for the local *users* still characterises the situation. In general took appropriation, only place at the forbearance of official

managing actors both the FD as institution as well as individual FD employees and benefits from the *CPR* are derived under inconsistent institutional structures.

The government agency formally *monitors* and *sanctions* resource use related activities and *users* practices are subject to the externally designed *rules* and regulations. Whereas *rules* for concrete appropriation and provision may have been drafted by *users* themselves (cf. Ostrom 1995:92 - *second principle*) they are liable to a restrictive regime that is based on rather abstract conceptions of forest *protection* and instead of *utilisation* (see 2.3. and 2.4.). The alternative concept of integrated monitoring that was originally developed for biosphere reserves and takes into account the social sphere (cf. Fischer-Kowalski, Erb, and S. J. Singh 2004) would be extremely interesting to consider in this regard.

The interlaced situation in BRT is attended by inevitable conflicts and resolution mechanisms are required. As I pointed out in section 5.1., practical conflict resolutions were found to be accessible and well-functioning in respect to spontaneous encounters between the actors and supported by collective efforts and cooperation among organisations. Yet on a formal governance level the situation portrays more hierarchical. The overall sanctuary governance structure in BRT is centralized. The forest department is the sole executive authority of designed *rules* and local authority as well as rights of *users* (cf. Ostrom 1995:101f - *seventh principle*) are limited (Field notes 2011). The power between the actors is evidently distributed unequally with exclusive powers to decision-making and sanctioning to the FD. This imbalance could, however, change with the on-going decentralisation efforts by the state government (see below 6.1.).

One man commented on FD duties and responsibilities during grazing his cattle herd:

“They observe the forest, they see that the trees are proper, that no one is cutting trees, they observe all this. If somebody is cutting a tree they will put a case on him ... they count trees and make notes and protocols [...] even if they don't do much, the government gives them salary” (Interview 8, 6.9.2011).

People's views on *managing* the forest essentially drew a distinction between the physical works of managing – for example cutting back lantana, releasing *amla* trees from mistletoes or actively prevent poaching, and administrative tasks – including numbering, counting and recording (Interview 8, 13, 15, 16). While in the former people sometimes took part through temporary employment, the latter was fully

inaccessible and possible also incomprehensible because it followed a different perspective and knowledge system. Later that day the man mentioned that working for the FD was a favourable job, salaries for fix employees were decent and as *watcher* you could stay your family, yet there was hardly any new permanent employment available (Interview 8, 6.9.2011) (also see 5.1.4.). Other FD competences include control of physical access to the sanctuary (see 3.1.2.), the implementation of the wildlife sanctuary management plan⁶⁰ (IUCN Category IV Protected Area) and decision-making on touristic activities.

Summing up the current resource regime, under which the forest is accessed, managed and used (see complete chapter 5.), is influenced by a complex system of customary and traditional *rules* on the one hand and on the other by *formal institutions* embodied in state *regulations* (according to sanctuary management objectives). This makes a conceptualisation of BRT as *state property management regime* non-sufficient, since it would hide the fact that the situational arrangement of *CPR* utilisation comprises in BRT complex layers of institutions. In short, it is found that the interlacing of self-organised institutions and designed *rules* defines any kind of utilisation for the people from *Kalyani podu*. Whereby, the distinction between *institutions* is based on their diverging in emergence and rationale, the respective potential of enforcement and the way in which they become legitimised (see 5.1.1. – 5.1.5.).

6.1. Community Rights in the Process

The adoption of the Forest Rights Act 2006 has ushered in a new forest management and conservation approach in India. By aiming for greater involvement and control of local communities over utilised forest and natural resources it has critical significance in the research context. The controversies on application of the national legislation inside protected areas and its legal principles are outlined in the second chapter (see 2.3. and 2.4.) while this paragraph focuses on the operational and empirical level of community forest rights in BRT.

In order to disseminate information, key features of the Act and to develop capacities of *Soligas* towards claiming rights under the FRA on the initiative of ATREE, SAS,

⁶⁰ Management tasks that do not impede on people's utilisation of the *CPR* are not considered within the scope of the thesis.

Kalpavriksh and VGKK several workshops were collaboratively organised from 2006 onwards (cf. ATREE 2012). In the procedure of claiming community forest rights the *gram sabha* – as the legally recognized body of *podu* adults – is primarily responsible for filing and submitting the claims and has the right to appeal if claims have been rejected (cf. Bose, 25.7.2011). In order to assert community rights people are required to provide closely written evidence on their customary practices and spatial prove about interactions with the landscape. The map of sacred sites (see Annexe A.3) as initiated by SAS and ATREE (see 5.1.1.) constitutes fundamental part of this evidence and key persons like C. Madegowda had lead responsibility in this respect (pers. comm. Rai, 4.9.2011). In the FRA 3(1)(i) forest dwelling communities can claim community rights to “*protect, conserve, regenerate or manage any forest or community forest resource that has traditionally been protected*” as well as rights to grazing, NTFP collection and traditional rights in regard to sacred sites (FRA 2006). Before I started fieldwork in BRT I came to know about the on-going proceedings and applications for individual land rights (in some *podus* they were already granted) and community rights (cf. Interview Rai, 20.7.2011; pers. comm. C. Madegowda, 26.7.2011).

During interviews and conversations people did not bring up the issue of FRA claims and generally rather avoided to answer my questions on it (Interview 1, 7, 9). One elderly man voiced the feeling of impotence regarding FRA and general legal proceedings “*I know the area very well but I don’t know all what is happening with the written information, I know that the forest land is not in our name, how I can change that, I don’t know all that*” (Interview 15, 14.9.2011). It is assumed that mobilising people/the *gram sabha* and raising awareness about FRA proceedings constitutes a challenging task given that practical implementation may not alter the *lebensweltliche* perception in performance of utilisation (Field Notes 2011). In principle the process marks a *convention* transforming into a *legally sanctioned rule* whereby again the issue of institutional emergence is interesting. Asking about FRA developments and *gram sabha* meetings one woman explained:

“yes there are many meetings, before there will be a notice, but not everybody can attend ... I have goats and sheep to graze I cannot attend all the meetings. Some of us, two maybe, are going, you have to ask them, and maybe they will know what is going on” (Interview 9, 9.9.2011).

Reservations regarding participation in meetings or workshops (Interview 1, 8, 16) as also reflected in the above statement are not interpreted as assigning no potential to the meetings but rather portray people's difficulties to actively participate. On the one hand daily-performed amount of work should not be underestimated. Secondly people's perception of their role in 'organised' activities may also not be considered primarily expedient or necessary – this is hypothesised to be linked to situational apprehension and regulation that is frequently experienced during utilisation. The situation resembles to *quasi-authorized* but hidden interactions with the forest that may have worked against people's self-assertion. An abstraction in this vein is also applicable in regards to resource use practices and is linked to the argument of ignorance due to lack of schooling (Interview 2, 9, 11, 15). On another level it could be argued that reserved behaviour towards FRA claims have to be considered within the context of long-standing informal contracts and the unequal significance that is attached to recognized rights, that become *formally sanctioned rules* (cf. Vatn 2005:65f) in contrast to informal agreements.

Yet community forest rights in BRT have enormous potential since they can increase security in continuous utilisation and settle people's conditions of access to and control over *common-pool resources*. In 2010, more than 30 *podus* including *Kalyani podu* (see FRA form in Annexe A.4) claimed community forest rights (pers. comm. 26.7.2011). While several times during my stay at the field station in BRT the positive notice that granting of rights is about to take place hung in the air (Field notes 2011), it was continuously postponed. It was only after returning to Vienna when I received a notice via email from C. Madegowda that on October 2nd 2011 community forest rights⁶¹ were distributed by DC Amara Narayana. While BRT marks the first wildlife sanctuary in India in which community forest rights have been recognized the concrete acceptance of the single specific (community) rights is not fully clear to me and it seems that rather

⁶¹ As per the FRA claims form these include: the right of ownership, access to collect, use and dispose of Minor Forest Produces defined under 2(i) and 3(1)(c) of Act; the right over collection and ownership of products from water bodies such as fish; access to grazing and customary rights, and seasonal resources and other rights defined under section 3(1)(d) of the Act; the right to protect, regenerate or conserve or manage any community forest resources for sustainable use under section 3(1)(i) of the Act and managed by a committee constituted by the Gram Sabha under section 4(1)(e) of Rules; the right of access to biodiversity and community right to intellectual property and traditional knowledge related to biodiversity and cultural diversity as per section 3 (1) (k) of the Act, and the right to visit, access and worship at the 489 sacred sites by Soligas under the section of 3 (1) (k) of the Act (see Annexe A.4).

a recognition of all the rights collectively was achieved. Due to the longstanding research and *close* relationships of the different actors the sanctuary is considered as high profile (cf. Interview Bose, 25.7.2011). The effective settlements of claims may still have uncertain elements and questions of – in how far *legal* recognition will allow new responsibilities (or provision and appropriation efforts) in forest utilisation and what sort of forest management approach could be *compiled* – need to be addressed, both in the legal sense as well as in a practical/administrative sense. Overall, it is likely that people's authority enlarges through a formal recognition of rights under the FRA and responsibilities between FD and *Soligas* may be shared.

In respect to the recent notification of BRT becoming a tiger reserve these concerns become even more urgent and it remains difficult to forecast how existing governance structures will change. Strengthening of self-governance capacities are critically supported by actors who highlight people's use-related interactions as sustainable linked to historical and cultural interactions with the landscape since time immemorial (see 5. and 5.1.5.). FRA developments are deemed to be useful in establishing enduring regimes also from the viewpoint that if beneficiaries or *CPR* are enabled to participate in the design of their own system uncertainty can be reduced and durability is likely to increase (cf. Ostrom 1995). Ideally these arrangements are shaped by the local specific institutional logic, adaptive and responsive to changes and facilitating ecosystem services.

On the basis of the elaboration from empirical research it was found that the situational arrangements, which mediates forest use comprises complex layers of inconsistent institutional structures. The *CPR* situation is understood as *institutional dissonance* (cf. Bromley 1991:105) in which distinctive *relational* contacts between local *users* and department authorities is frequent. Taking into account the notion of uncertainty in the access to the *CPR*, this *quasi-authorised* utilisation explains the excusatory and defensive attitude and brings up the question of – *how an institutional arrangement that facilitates utilisation and sustenance in agreement with the WPLA could be shaped?* Considerations, in this respect, have to centre people/*users* and their interests and choices in order to be durable. Institutions may not be understood as self-contained and should ideally contain heterogeneous views and perspectives and be adaptable to

changes in resources, *users*, particulars of management and external forces (cf. Agrawal 2002:53).

In an interview one man highlights precisely these issues and explained the recent notification of BRT becoming a tiger reserve (see 2.4.).

“This forest you see has become a tiger project, now it is about the tiger being kept safe [...] They will see how many tigers are there, how many tiger paw prints can be found, they will capture the print and find out how tigers can be increased. That is why they wont allow us so much [...] we don’t know who decides not and what we will be allowed, there is a lot of control ... the governments want tiger” (Interview 15, 14.9.2011).

This positional analysis expounds to the forest as highly contested as discussed in the previous sections and reflects the differing perspectives on purpose and utilisation of forests. The institutional arrangement is subject to permanent contestation and it is argued that even if security to a benefit stream is granted (as by the recognition of FRA claims) this continues. The form of this *negotiating* essentially influences the functioning of the resource regime that interlaces self-organised institutions and designed *rules*. Distinction between these *institutions* is based on their diverging in emergence and rationale, the respective potential of enforcement and the way in which they become legitimised. In *CPR* governance considerations this needs to be centrally highlighted. The discussed conditions under which the *CPR* is available are concluded to be encouraging for an inclusive arrangement because, firstly several management functions are already shared, secondly because actors interface already frequently through dialogue and thirdly because implementation of the FRA is advancing.

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- The Panchayat Extension to Scheduled Areas Act, 1996
- The Wildlife Protection Amendment Act, 2002
- The Wildlife Protection Amendment Act, 2006
- The Scheduled Tribes and Other Traditional Forest Dwellers Act (Forest Rights Act), 2006

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Annexe

A.1 List of Interviews with people from *Kalyani podu*

Reference name	Date	Time	Location
Interview 1	23.8.2011	2:33pm	Forest
Interview 2	24.8.2011	5:20pm	Kalyani podu
Interview 3	25.8.2011	12:37am	Lake
Interview 4	25.8.2011	1:30pm	Kalyani podu
Interview 5	30.8.2011	10:55am	Kalyani podu
Interview 6	30.8.2011	12:40am	Kalyani podu
Interview 7	30.8.2011	2:02pm	Kalyani podu
Interview 8	6.9.2011	12:02am	Forest
Interview 9	9.9.2011	10:26am	Forest
Interview 10	9.9.2011	8:21am	Forest
Interview 11	10.9.2011	11:40am	Forest
Interview 12	10.9.2011	12:07am	Forest
Interview 13	13.9.2011	3:54pm	Kalyani podu
Interview 14	14.9.2011	9:46am	Forest
Interview 15	14.9.2011	10:48am	Forest
Interview 16	16.9.2011	10:28am	Kalyani podu

A.2 Personal Communications, *expert*-Interviews and Presentation

Reference name	Date	Time	Location
Interview Rai	20.7.2011	11:15am	ATREE office, Bangalore
Interview Bose	25.7.2011	5:13pm	Koshy's café, Bangalore
pers. comm. C. Madegowda	26.7.2012, 20.8.2011 and	~1:00pm ~11:00am	ATREE field station, BR Hills

	11.9.2011	~6:00pm	
Interview Setty	10.9.2011	7:45pm	ATREE field station, BR Hills
Interview Prabhu	13.9.2011	1:42pm	LAMPS office, BR Hills
Suchismita Das Talk on Eco-tourism in BRT	18.7.2011	4:00-6:15pm	ATREE office, Bangalore

A.3 Map of Sacred Sites in BRT

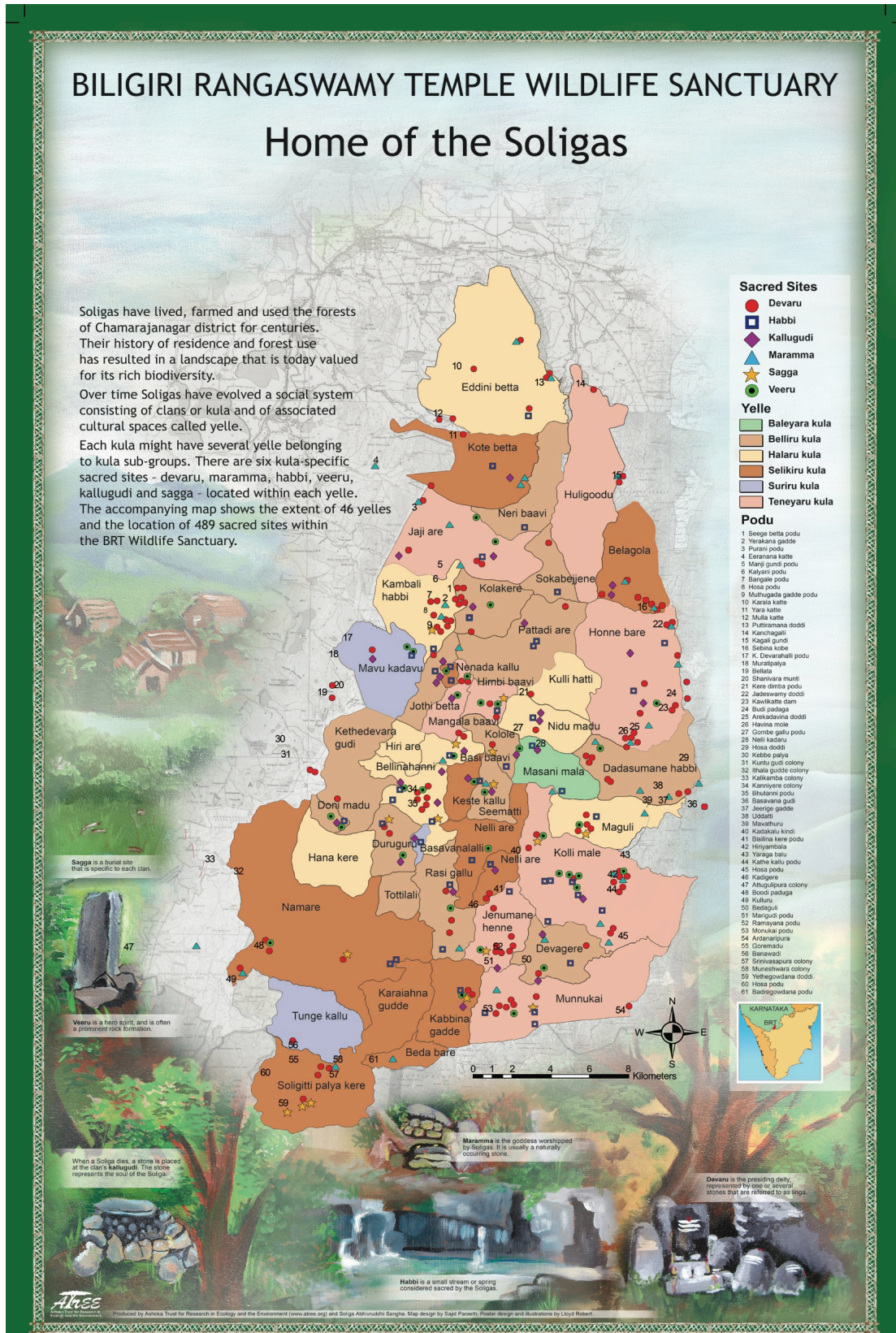


Figure 2: The Map of Sacred Sites in BRT. Home of the Soligas. (source: ATREE 2010)

**A.4 Claim Form for Community Forest Rights under the FRA 2006 –
Kalyani podu**

Annexure -III
Government of India
Ministry of Tribal Affairs
Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights)
Act (See)
(See section 8 (h) of the Rules 2008)

TITLE TO COMMUNITY FOREST RIGHTS

1 Name(s) of the holders(S) of community forest rights: All Gram Sabha Members of Kalyani Podu	
2 Village / GramSabha:	Kalyani Podu
3 GramPanchayat:	Yaragamballi
4 Teshil / Taluk:	Yelandur
5 District:	Chamarajanagara
6 Scheduled Tribe/ Other Traditional Forest Dweller: Soligaru, Scheduled Tribes	
7 Nature of Community rights	
1. Right of ownership, access to collect, use and dispose of Minor Forest Produces defined under 2(i) and 3(1)(c) of Act.	
2. Right over collection and ownership of products from water bodies such as fish; access to grazing and customary rights (including of nomadic and pastoralists communities), and seasonal resources and other rights defined under section 3(1)(d) of the Act. (Negannana katte, Melimavu tanks)	
3 Right to protect, regenerate or conserve or manage any community forest resources for sustainable use under section 3(1)(i) of the Act and managed by a committee constituted by the Gram Sabha under section 4(1)(e) of Rules.	
4 Right of access to biodiversity and community right to intellectual property and traditional Knowledge related to biodiversity and cultural diversity as per Section 3 (1) (k) of the Act.	
5 Right to visit, access and worship at the 489 sacred sites by Soligas under the section of 3 (1) (k) of the Act.	

8. Conditions if any:

1. Protect wildlife, forest and biodiversity.
2. Excluding the traditional rights of hunting.
3. The Gram Sabha should ensure the regulated use of forest resources and ensure that there are no adverse effects on wildlife, forest and biodiversity.

9. Description of boundaries including customary boundary / prominent landmarks including khasra/ compartment No: Yelandur Range, Biligiri Rangaswamy Temple Wildlife Sanctuary, Chamarajanagara dt. Name(s) of the holders(s) of Community forest rights: All the Grama sabha members of Kalyani Podu.

We, the under signed, hereby, for and on behalf of the Government of Karnataka (Name of the State) affix our signatures to confirm the forest right as mentioned in the above mentioned holders of community forest rights.

District Tribal Welfare officer

Divisional Forest
officer/

Deputy Conservator of Forests

District Collector / Deputy Commissioner

B.1 Abstract English

There is considerable part of India's geographical area that consists of forestlands that provide essential ecosystem services and to which local communities depend for some part of their livelihood. Such resource settings are often non-exclusive and characterised by complex tenure situations, which provoke conflicting assertions over access to and use of the natural environment. Conceptualised as *common-pool resource* situations this thesis aims at illuminating the particular complex local circumstances within the boundaries of the *Biligiri Rangaswamy Temple Wildlife Sanctuary* in Southern India. In the positional analysis – of the conditions under which utilisation of the forest occurs and how the continuous interaction with the ecosystem is facilitated – particular focus is given to property rights regimes and situated institutions. In trying to devise an understanding of people's *lived practice(s)* the thesis seeks to understand situational contestation as inherent to institutional structures in the current forest management inside protected areas. Embedded in a social scientific approach I conducted a two-months fieldwork between July and September 2011 in a forest settlements called *Kalyani podu* working with forest-dwelling people from the *Soliga* community. Drawing on an ethnographic research approach pivotal methodological insights were gained and discussed whereby the question of *how* data was gathered came to the fore. Through qualitative methods of participant observation, ethnographic interviewing, informal conversations and field note recordings data was gathered. Given the practical and conceptual challenges that were faced during the fieldwork the thesis also includes a reflexive examination of my role as an *outsider* and *researcher* being instructive for the data collection process. Based on the empirical insights it is suggested that forest areas provide an essential source of provisioning and cultural services. *Users* behaviour evidently occurs coordinated, they interact with the ecosystem not independently but naturally communicate. The diversity of utilisation of the *common-pool resources* is subject to restrictions enforced by state authorities whereas local autonomy to devise regulative systems was lacking. Complex layers of inconsistent institutional structures were observed that are conceptualised as *institutional dissonance* (cf. Bromley 1991:105). In this situation of *quasi-authorisation* it is furthermore remarked that informal agreements are transformed into formally sanctioned rules through the implementation of the Forest Rights Act 2006.

B.2 Abstract Deutsch

Ein beträchtlicher Teil des geografischen Gebiet Indiens besteht aus Waldflächen, welche durch sogenannte Ökosystemleistungen oft wesentlich zum Lebensunterhalt von lokalen Gemeinschaften beitragen. Diese Ressourcen-settings unterliegen meist staatlicher Kontrolle und sind aber vielfach nicht exklusiv in ihrer Nutzung. Sie zeichnen sich durch komplexe Besitzverhältnisse und konkurrierende Ansprüche in Zugang und Verwendung aus. Die vorliegende Diplomarbeit widmet sich den komplexen lokalen Bedingungen innerhalb des *Biligiri Rangaswamy Temple Wildlife Sanctuary* in Südindien. Begrifflich wurde das Naturschutzgebiet als Allmenderessource (*common-pool resource*) gefasst. Durch eine positionelle Analyse soll die stattfindende Interaktion zwischen Menschen und Ökosystem aus einer lebensweltlichen Perspektive begriffen werden um eine fortdauernde Nutzung fassbar zu machen. Beim Versuch ein Verständnis der gelebten Praktiken zu entwickeln wird eine situative ‚Umkämpfung‘ des Waldes als den institutionellen Strukturen inhärent beobachtet. Eingebettet in einen sozialwissenschaftlichen Forschungsansatz wurde im Rahmen einer zweimonatigen Feldforschung zwischen Juli und September 2011 mit einer *Soligas* Dorfgemeinschaft gearbeitet. Mittels teilnehmender Beobachtung, unstrukturierten Interviews und informellen Gesprächen wurden Daten gesammelt und gleichzeitig auch zentrale methodische Erkenntnisse gewonnen. Die Frage nach dem *wie* Daten gesammelt werden trat dabei in den Vordergrund. Angesichts der praktischen und konzeptuellen Herausforderungen während der Feldforschung waren reflexive Überlegungen zu meiner Rolle als Forscherin integral für die Datenerhebung. Basierend auf der empirischen Forschung zeigte sich, dass die Waldflächen wichtige Quellen für bereitstellende, als auch kulturelle Dienstleistungen sind. Es wurde beobachtet, dass das Verhalten der direkten *Nutzer* augenscheinlich koordiniert auftritt und Interaktionen mit dem Ökosystem nicht unabhängig voneinander passieren. Insbesondere durch Beschränkungen von staatlichen Autoritäten fehlt lokale Autonomie um ein regulatives System zu entwickeln. Unterschiedliche Ausprägungen von inkonsistenten institutionellen Strukturen prägen die Situation, bezeichnet als *institutional dissonance* (cf. Bromley 1991:105). Gleichzeitig zeigt sich eine Verwandlung von informellen Vereinbarungen zu formal anerkannten Rechten durch die Implementierung des Forest Rights Act 2006.

B.3 Curriculum Vitae

PERSONAL INFORMATION

Date of birth & place: 26.3.1986 in Raab, OÖ
elisabeth.mayrhuber@gmail.com

EDUCATION

10/05-10/12 Diploma **International Development**, University of Vienna
Thematic concentration: Human Rights, Human Development,
European Studies, Environment and Resource Management

09/09-06/10 **Erasmus** year abroad at the University Antwerp, Belgium

09/99-06/04 Oberstufengymnasium, Grieskirchen, OÖ

EXTRA-CURRICULAR ACTIVITIES

05/11-09/12 **Field research** for diploma thesis in Karnataka, India

01/10 Representing the ‚*Moscow Helsinki Group*‘ at the **EUROSIM Conference 2010** in Antwerp, Belgium

07/09-08/09 Attendance with full scholarship at the **Sommerhochschule** of the University Vienna, ‚*European Studies*‘ in Strobl, Salzburg

03/09 Represented the **Republic of Yemen** at the **Harvard World Model United Nations** Conference, The Hague, Netherland

10/08-02/09 Internship at the **Ludwig-Boltzmann Institute for Human Rights**

06/07 and 07/08 Project management of the music festival ‚**Keep Shining**‘, Raab

09/04-03/05 **English Language School** in Bournemouth, UK

PROFESSIONAL EXPERIENCE

08-present **Kabarett Simpl** office, accountancy, reception, tickets

12/11 **This human world** Human Rights Film Festival, tickets sale

05/10 **E Youth International Conference** in Antwerp

- Registration, co-chair, post-conference protocols

07/06 and 07/07 **Kino unter Sternen** catering and tickets, Vienna

09/04-03/05 **Au Pair** in Bournemouth, United Kingdom – 4 children

LANGUAGES/

German **Fluent**, written and spoken (mother tongue)

English **Fluent**, written and spoken

Dutch **Advanced** – CEFR: B2

French **Basic** – CEFR: B1