

PROTECTED AREAS AND ROAD DEVELOPMENT: SUSTAINABLE DEVELOPMENT DISCOURSES IN THE ANnapurna CONSERVATION AREA, NEPAL

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With 5 figures and 2 tables

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Summary: Protected Areas (PAs) in developing countries are undergoing a rapid transformation brought about by global-local forces of change. The intensification and extension of these change processes have put those PAs in remote regions at the heart of the sustainable development discourse. Using a qualitative research approach, the current study analyses discourse on the Nepal's Annapurna Conservation Area (ACA) sustainability from the road development, against the background of the global-local change process. The combined effects of neoliberal economic restructuring and policy reforms, as well as the globalization of local economy induced by the road impacts, have altered governance aspects of the ACA management a lot. The paper also reveals further intensification of localised political economic problems, invigorating the moral dimensions of the PA sustainability. We argue that poverty alleviation for sustainable development needs to move away from the rhetoric of the conventional economic growth narrative. PA sustainability in the context of road development in the ACA should be understood as a broader concept, where political, environmental and socio-economic processes related with the dynamics of global-local change and multilevel governance, play a crucial role. The contemporary PA sustainability debate, in this context, requires understanding the human-environment relationships and their interplay, from a multilevel governance perspective.

Zusammenfassung: Schutzgebiete (PAs) in Entwicklungsländern sind derzeit einem rapiden Wandel u.a. durch Infrastrukturprojekte unterworfen. Die Intensivierung und räumliche Ausweitung dieses Veränderungsprozesses hat die peripher gelegenen PAs in den Fokus der Diskussion zur nachhaltigen Entwicklung gerückt. Die vorliegende Studie stellt eine qualitative Analyse des Diskurses über die Nachhaltigkeit des Straßenbauprojektes in der Annapurna Conservation Area (ACA), Nepal dar. Daraus sich ergebende Kontroversen bestehen in ökologischer und sozio-ökonomischer Hinsicht – besonders die Frage der Armutsbekämpfung, sowie das Thema Governance betreffend. Die neoliberalen ökonomischen Restrukturierungen und politischen Reformen im Land sowie die Globalisierung der regionalen Ökonomie als durch den Straßenbau induzierte, wesentliche Konsequenz beeinflussen die ACA und ihr Management vielfältig. Dieser Beitrag zeigt, dass durch eine Zunahme lokal konzentriert auftretender, neuer politischer und wirtschaftlicher Probleme, die moralische Dimension der Nachhaltigkeit von PAs verstärkt zu hinterfragen ist. Die Autoren plädieren dafür, dass sich die Armutsbekämpfung zum Zweck der nachhaltigen Entwicklung von der Rhetorik der herkömmlichen Muster ökonomischen Wachstums abkehren sollte. Im Kontext des nicht zuletzt geopolitisch motivierten Straßenbauprojektes in der ACA wird deutlich, dass mit fortschreitender Dynamik des global-lokalen Wandels eine Maßstabebenen übergreifende Politikgestaltung die kritische Rolle spielt. Die Debatte zur Nachhaltigkeit von PAs in Entwicklungsländern erfordert hinsichtlich Governance ein dementsprechendes Umdenken.

Keywords: Annapurna Conservation Area, globalization, governance, Nepal, protected area, sustainability, road development, nature conservation

1 Introduction

In the past twenty-five years, there has been an exponential growth in areas and number of Protected Areas (PAs), particularly in developing countries, where biodiversity is greatest (ROTICH 2012). Such PAs are also in parts of the world where poverty is prevalent and where 92% of the world's poor de-

pend on the biological resources for their livelihoods (CBD 2009). PAs are thus expected to contribute to the livelihoods of the communities (ERVIN et al. 2010), one of the key factors in driving sustainable development forward. However, this very context of livelihood enhancement imperative has also subjected the PAs under great development pressures both global and local in nature. The mutually reinforcing

interaction and interplay between global-local forces of change (GERWIN and BERGMANN 2012), is destroying places and resources, transforming them significantly (see IGOE and BROCKINGTON 2007; CASTREE 2008; BÜSHER et al. 2012; KOENSLER and PAPA 2013). Commodification of nature, reducing it into utilitarian resources (CAMPBELL 2005), brought by the globalization and internationalization of the world economy (LEICHENKO and O'BRIEN 2002) is the best example in this case. In addition to ecological impacts, such trends are partitioning resources and landscapes to control for capital accumulation for national and global elites (IGOE and BROCKINGTON 2007).

From a national perspective, the inherent need of developing countries to reduce poverty and governments' commitments to the Millennium Development Goals and Poverty Reduction Strategy Papers (ERVIN et al. 2010; NTNC 2012; UN 2013b), are important contexts bringing such change. The government in this regard, promote large-scale development as a blueprint strategy, to fulfil this dual need (ERVIN et al. 2010). Infrastructure, such as road building is seen as the very backbone that would facilitate development and poverty alleviation in rural regions (JACOBY 2000; VAN DE WALLE 2002). In Nepal, one of the world's least developed countries (LDCs) (FAYE et al. 2004; WORLD BANK 2012), road construction is seen as one of the crucial components of the sustainable development plan to expedite a poverty alleviation process. However, road development projects within developing countries raise many sustainability issues (JAYARAM 2003; NTNC 2008; LAURANCE and BALMFORD 2013). The concerns arise mainly from the point of view of how the multiple factors associated with road development are affecting the different aspects (e.g., ecological and socio-economy) and levels of management (MOWFORTH and MUNT 1998) within PAs. Adding complexity to such PA sustainability challenge is the changing political regime and ongoing instability in Nepal. Political instability and economic development trends are stated as the most significant challenges affecting the conservation and development initiatives within the Kanchanjaung Conservation Area, Nepal (MÜLLER et al. 2008).

The Annapurna Conservation Area (ACA) provides a classic case of its subjection to the forces of global-local change and sustainability challenge. Until now, there is a significant gap, both in terms of documentation of the pressure and drivers of change affecting the ACA and in understanding the relationships between environmental, socio-economic and governance change process, partly because of the rapidness and multifaceted nature of change and also

because this is a newly emerging field of research interest. Thus, there is both a theoretical and empirical dearth in understanding how global-local forces of change affect the PAs at the local level (BECKEN and JOB 2014), and implications for PA sustainability. Keeping the big picture in mind, especially the interactions and interplay of PAs with global issues, but focussing on local issues, this study aims to understand contemporary PA sustainability within the context of recent and rapid road development initiatives. The research interest, in particular, lies in understanding how road development trends have affected the Mustang district of ACA and implications for PA sustainability more generally. The analysis is based on a critical discursive appraisal of the theoretical concept of PA sustainability, through sustainable development, conservation and development, and governance discourses. The emphasis is placed in highlighting the point that the sustainability discourses in the ACA are the result of the underlying conservation and development contestations, political economy, equity, and power relations at different scales in play.

2 Protected Areas and sustainability

2.1 Sustainable development discourse

The Brundtland Commission (1987) is one of the most influential global policy agendas that has given momentum to the notion of sustainability in the development field. The broader definition, offered by the Commission has been subject to wide interpretation (ESTES 1993; BUTLER 1998), reflecting multiple conflicting values, moral positions and belief systems (ROBINSON 2004). Fundamentally, the concept displays a dynamic tension between poverty and environmental concerns, arising from two environmental arguments: utilitarian conservation vs. preservation (ROBINSON 2004; CAMPBELL 2005). These two strategies are rooted in two opposing philosophies, neo-liberalization and protectionism (ROBINSON 2004; CAMPBELL 2005). Thus sustainable development presents a paradox. On one hand, the concept connotes economic growth and development, while on the other hand there are environmental limits, and equity and justice (McKERCHER 1993; ESTES 1993; ROBINSON 2004; CAMPBELL 2005). Such constructive ambiguity, caused by the lack of definitional precision (ESTES 1993; ROBINSON 2004), in our view, has both philosophical and management implications.

From the philosophical standpoint, conceptualizing nature as either an autonomous domain for protectionism, or as utilitarian resources for material production, has produced polarised narratives on human-environment relationships (CAMPBELL 2005). From the management standpoint, such contestation has allowed individuals concerned to gain from it. As a result of this, the sustainability concept is viewed as a panacea of solving development ills. Promotion of sustainable development as a means of ameliorating, but not challenging, continued economic growth (ROBINSON 2004), is a classic example of this case. Furthermore, the divergent perspectives on one hand highlight the interdependent reality of human and environmental relationships (ESTES 1993; ROBINSON 2004), on the other, social constructive nature of the concept. These imperatives mean that policy makers have much to gain by adopting sustainability principles within development and environmental fields, as a social process and not an end state (ESTES 1993; ROBINSON 2004). Since within the PA, the very fact that the sustainability hinges on trade-offs between conservation and development, the issue is not one versus the other, but in how best to integrate these two opposing philosophies for its sustainable management.

We consider a broader outlook on sustainable development concept that integrates both the substantive (i.e., ecology, socio-economy) and political dimensions of sustainability (see ROBINSON 2004). The PA sustainability challenge is discussed in the context of evolving conservation, development and governance discourses.

2.2 Conservation and development discourse

In the past twenty-five years, two important trends have changed the course of PA sustainability: the exponential growth in areas and number of PAs; and the impacts of globalization trends. Until recently, a global trend in conservation has been increasing the number of PAs (*ScienceDaily* 2013, November 14). However, the globalization of the local economy and thereby, the escalating demand of the world for food, energy and water (LAURANCE and BALMFORD 2013), to the inherent need of the developing countries to alleviate poverty for sustainable development (ERVIN et al. 2010; UN 2013b), have put significant pressure on the precious and limited resources (see LEICHENKO and O'BRIEN 2002; HOGH-JENSEN et al. 2010; KOENSLER and PAPA 2013; HAJKOWWICZ et al. 2012; UN 2013a). These forces of change are some

of the greatest contemporary PA sustainability concerns. From Khaziranga National Park (India) and Nairobi National Park (Kenya), to Serengeti National Park (Tanzania) (see JAYARAM 2003; WORLD BANK 2004; DOBSON et al. 2010; JOB and SCHMIDT 2011; LAURANCE and BALMFORD 2013), PAs have been subjected to the road construction projects, promoted to facilitate the resource extraction for market production. The emerging globalization trends and the development pressures as stated by MOWFORTH and MUNT (1998), are responsible in affecting the ecology, socio-economic aspects and levels of governance (international, national and local community).

From an ecological perspective, roads profoundly influence the footprint of human activities (LAURANCE and BALMFORD 2013) such as the ecosystem change, caused by the intensification of land use (FOLEY et al. 2005; MÜLLER et al. 2010). Land alteration is regarded as one of the most visible indicators of human impacts and important drivers of loss of biodiversity (FOLEY et al. 2005; NKONYA et al. 2012). Biodiversity loss, due to ecosystem change, results in destabilization of ecosystem services, the very foundation of human welfare (ERVIN et al. 2010). Socio-economically, the major arguments for road development, and outcomes promised by governments include reduction of poverty via maximization of the economic opportunity and growth for the poor. However, RAMMEL and VAN DEN BERGH (2003) counter this argument, arguing that traditional economic theory, instead, facilitates unsustainable socio-economic structures and development processes. VAN DE WALLE (2002) also claims that road connectivity is just one of many constraints and that the intended socio-economic benefits from road development depend on many factors, including the prevalent equity, political economy and social factors. Thus, it can be argued that the contemporary debate on conservation and development should focus on the moral dimensions of sustainable development, the political economic divisions and power relations at play (see BLAIKIE and JEANRENAUD 1997). Persistence of poverty, despite the concerted effort of the government and multilateral development agencies for sustainable development (ASHLEY and MAXWELL 2001), is due to insufficient attention to these factors (BOSTÖRM 2012), which is perpetuating inequalities and disparities within the rural regions of developing countries (VAN DE WALLE 2002). Road development, therefore, has socio-political and moral dimensions. Sustainability, from this standpoint, is exclusively about good governance.

2.3 Governance discourse

The discourses on sustainability have received significant global attention in terms of public policy making and governance (KOENSLER and PAPA 2013). However, governance from PA sustainability is a contentious issue due to diverse value based representative views of the PA (CBD 2008; BYRNE and WOLCH 2009; LIECHTI et al. 2010; IUCN 2013). Such pervasive notion of the PA sustainability not only gave contested meanings to resource use and management (BLAIKIE and JEANRENAUD 1997), but also represented the normative aspects of how PA should be managed (JOB et al. 2003; VARGAS-DEL-RIO 2014).

From the conservation standpoint, the evolution of the PA policy-making and governance contexts in the 1980s and 1990s, from strict protection philosophy to participatory approaches (MÜLLER et al. 2008; ROTICH 2012), are the result of these contestations. Participatory resource management became the most crucial PA management strategy to meet the dual objectives of poverty alleviation and nature conservation (BAJRACHARYA et al. 2007; BARAL et al. 2007, 2010; NTNC 2008, 2012; OJHA and SARKER 2012; BECKEN and JOB 2014). This has resulted in two historical outcomes. First is the shifting of PA governance approaches from hierarchical to multilevel contexts (see BANNER 2002; NEWMAN et al. 2004; ARMITAGE 2008) that encouraged inclusiveness and the decentralization decision-making (CAMPBELL 2005). Second, it has also embedded conservation policies within the broader socio-political and economic changes for regional development (THAKALI 2012). Nature based tourism became the important strategic tool in promoting nature conservation via economic development that is less destructive than logging, mining and mass tourism (JOB and VOGT 2003; HONEY 2008; MAYER and JOB 2014), and the mainstay of the economy, having profound effects in rural regions (JOB 1996; BUTLER 1998; JOB and PAESLER 2013). This suggests that PAs are sites for practices of power, negotiation of interests and values (CAMPBELL 2005).

In terms of development, the neo-liberalization process and the poverty alleviation policy of the 1990s, promoted by the governments (HONEY 2008; KHANAL et al. 2005; SHRESTHA 2010), via the major global sustainable development programmes (such as Millennium Development Goals and Poverty Reduction Strategy Papers), are important contexts. In Nepal, such changes took place within

the context of two important global and regional events. Globally, the emergence of the 'Washington Consensus' and the liberalised economic policy of the early 1990s, facilitated by the multilateral development agencies (SAWTEE 2007), and regionally, the rise of the economic and military power of capitalist India and its imposition of a year-long trade and transit embargo in the country (SHRESTHA 1992), are the important drivers of change. Being a landlocked country, such forces of change not only weakened Nepal, but also made it dependent on multilateral development agencies (SHRESTHA 1992). This changed the course of development paths, including the rising influence of the non-governmental organizations (NGOs) and multilateral development agencies in national development plans.

Such change contributed to the reorientation of development policies towards a more participatory and inclusive system. The Local Self Governance Act (1999), legally endorsed the concept of self-governance and devolution of authority to the local government institutions (RAI and PAUDEL 2011; THAKALI 2012). Beside the policy landscapes, the changing political regimes are important dimensions, influencing the governance contexts. The 1990 democratic movement, the decade-long Maoist insurgency (1996–2006) and the existing political instability that shifted Nepal's political regime from being an absolute monarchy to a multi-party democratic system in the 1990, to federal republican state in 2007, have brought radical power shifts and governance processes to the country (BERG 2008). Such trends have heavily affected the sustainable development trajectory, stifling the institutions and their capacities.

3 Case description – the Annapurna Conservation Area (ACA)

The ACA is Nepal's first PA, proposed as the new 'Conservation Area' model. The model is based on the management principles of participatory conservation and multiple land use zones (HEINEN and KATTEL 1992b; JOB and THOMASER 1996), designed by the National Trust for Nature Conservation and the Annapurna Conservation Area Project (ACAP) (BAJRACHARYA et al. 2007; THAKALI 2012) (Fig. 1). The National Trust for Nature Conservation (former King Mahendra Trust for Nature Conservation) is Nepal's leading non-governmental organization, responsible for managing several PAs in Nepal, including the ACA. The establishment of the ACA was



Fig. 1: The ACA location map

driven by the interest of the royal families (CROES 2006) and until Nepal became a republican state, the institution had the King as its Patron.

The case study area lies in the north-western part of the ACA (876 sq.km), spread over seven Village Development Committees (VDCs), in the Kali Gandaki valley of the Mustang district (Tab. 1). The area lies within the wilderness, protected forest and intensive use zones. The wilderness and protected forest zones are sensitive habitats for rare and endangered wildlife species, as well as globally and near threatened bird species (see Fig. 2 and 3).

The Kali Gandaki valley is a migration pathway for 40 migrating bird species, including demoiselle crane (INSKIPP and INSKIPP 2001). A total of 7,895 people (58% of the district population) (NTNC/ACAP 2010; CBS 2014) live in the study area. The area is marked by resource scarcity owing to its harsh climate, steep topography and fragile ecosystem (see POHLE 1993; HAFFNER and POHLE 1993; HAFFNER et al. 2003). Villages north of Jomsom suffer from scarcity of forest coverage and water availability (POHLE 2001). Agriculture, livestock husbandry and horticulture account for more than 80% of occupational roles

Tab. 1: Ecological and socio-economic features of the study area

Area (sq. km)	876
Village Development Committees	7 (Lete, Kobang, Tukuche, Marpha, Jomsom, Kagbeni and Muktinath)
Management zones	Wilderness, protected forest and intensive use zones
Ecology	Sensitive habitat: <ul style="list-style-type: none"> Rare and endangered wildlife species (e.g. snow leopard, musk deer, Tibetan argali) Six Himalayan pheasants including globally and near threatened bird species (e.g. cheer pheasant and satyr tragopan) Migration pathway for 40 migrating bird species, including demoiselle crane
Population (2001)	7,895
Households (2001)	1,581
Average annual tourist arrival	24,000
Average annual earning	US\$ 0.59 million (as entry permit)
Hotels and lodges	135

Sources: INSKIPP and INSKIPP 2001; LAMA and VAN DER POEL. 2006; BARAL 2009; NTNC/ACAP 2010; NTNC 2008; ARYAL and SUBEDI 2011

(CEPAD 2011). However, harsh climate, especially low precipitation north of Jomsom VDC results in low agricultural productivity (POHLE 1993) and the need for supplementary livelihood options such as nature based tourism, migration and trade (POHLE 2001). The district is most popular for nature based tourism and is traversed by the world famous Round Annapurna Trek. In the past decade (2002–2011), the district received an average of 24,000 tourists annually, contributing to average direct earning of US\$ 0.59 million in entry fees alone. In addition, tourism has also provided direct benefits to 8.5% i.e., 135 of 1581 households, registered as hotel and lodge operators (see Tab. 1). Besides, there are quite a large number of local inns and retail shop operators, guides, porters and catering services in the area.

Ethnically, Gurung and Thakali are the dominant groups (84%) in the study area, followed by the socially disadvantaged group (8%) and others (8%) (CEPAD 2011). Historically, several exposures of the people of this area to changes in their social, religious, economic and political environments (MESSERSCHMIDT 1982; MANZARDO 1982; MANZARDO 1985; VINDING 1988; GRAAFEN 2001) have influenced the socio-cultural system. The hierarchical structure, based on caste and class became the core essence of socio-cultural system (TURIN 1997; RAMBLE 1992–93; RAMBLE 2001). Since culture very much defines the social relations (WILDAVSKY and DAKE 1990), the society in the study area is characterized by a strong economic, social and geographic marginalization. The prevalent poverty and the skewed socio-economic situation in the district are the result of the combined effect of such marginalization (CEPAD 2011).

4 Methodology

Given the premise that PA sustainability is a broad concept and a value laden construct, with contestations (for conservation and development), political economic division, equity and power relations at play, analysis of the road development-induced change dynamics and governance is central to this study (see ASCANI et al. 2012). The study adopted a very broad perspective in examining the underlying forces behind the road development, analyzing its impacts and the governance challenges.

The project is based on a qualitative case study and participatory approach for several reasons. A case study is a suitable line of inquiry for investigation of a contemporary phenomenon within a real

life context (YIN 2003; YIN 2012). It facilitates the exploration of the phenomenon within the context, using a variety of sources (BAXTER and JACK 2008). As participation is an important normative goal in PA management paradigms, participatory resource management and self-governance are the hallmarks of ACAP's and DDC's conservation and development philosophies. Such policies have not only transferred power to local institutions, including NGOs, customary institutions and private institutions (RIBOT et al. 2008), but also resulted multiple institutions to operate within the framework of decentralized resource governance and development. Given this context, understanding the views of the different research participants embedded at different political and policy levels is crucial. For this, data was generated using a combined integrative, discursive and participatory approach (FORSYTH 2008). The study analysis process is based on integrated knowledge gained from the field of political ecology and development theory (see ARMITAGE 2008; PAINTER and JEFFERY 2009; PIETERSE 2010; BRENNER and JOB 2012; CONTU and GIREI 2013).

This research project is based on ten weeks fieldwork carried out across two years (2009 and 2011), within seven district VDCs, affected by the Pahirothaplo-Jomsom-Ghoktang road. Data collection methods comprised in-depth interviews, participant observation and transect walk. Thematic maps on land use change were prepared through the participatory exercise of the transect walk. Forty research participants were selected for the in-depth interviews. They were chosen using a purposeful sampling technique. The approach had been to select participants, representatives from wider geographic distribution, mix and level of political institutions promoting conservation and development activities in the study area. Table 2 presents the institutional profile and governance portfolio of the research participants. These represented government institutions, the NGO and its community conservation institutions, customary institution, district based institutions and political parties. It should be noted that the unique cultural and livelihood factors, shaped by limited resources and harsh geo-climatic conditions (BECKEN et al. 2013), meant that the participants selected pursued multiple livelihood options.

The length of the interview ranged from minimum of thirty minutes to one hour. The interview first explored the forces of change in the area, as a basis for understanding their background and the contexts against which road development and management issues are being discussed. The second part

Tab. 2: Institutional profile and governance portfolio of the research participants

No. of Participants	Institutional Categories	Institutions	Governance Field
4	Government institutions	District Development Committee Village Development Committees	Policy, public administration and development
12	NGO Community conservation institutions	Annapurna Conservation Area Project Conservation Area Management Committees Forest Management sub Committees Tourism Management sub Committees	conservation and development
2	Customary institution	Mukhiya	Resource and village affair management
13	Individual households	Hotel/lodge owners Local inn/restaurant owners Trekking guides/porters Traders/retail shop owners Farmers	Livelihood service provision
7	District based institutions	Department of Forest and Soil Conservation District Agricultural Development Office Marpha Horticultural Centre Mothers Group	Conservation and development
2	Political parties	Nepali Congress, district level United Marxist Leninist, district level	Policy

investigated the knowledge of participants to road development, its impacts and how it has affected the governance aspects.

Interviews were conducted in Nepali language. The questions were open-ended, facilitating spontaneous opinions and minimising potential bias from restricting responses to pre-determined and fixed categories (RYAN 1995). During the interview, follow up probes for issues raised by the informants and paraphrasing for verification (KEMPTON 1991), were used. From the transcripts of the interviews, data was categorized into major contents such as forces behind road development, environmental and socio-economic impacts of road and governance spectrum, to make sense of the case and infer its implication in the overall PA sustainability contexts. The lead author's previous work experience in the ACA (2003–2008), at a managerial level, was a crucial factor in the smooth accomplishment of data collection and in informing the data interpretation process.

5 Road development and dynamics of change

5.1 Forces behind the Pahirothaplo-Jomsom-Ghoktang road development

There are several underlying factors behind the road development in the Mustang district, the most important of which include the wide-ranging neo-liberal policy restructuring and change (SAWTEE 2007; THAKALI 2012) and the inherent development imperatives in the district. As part of the government's commitment to reduce poverty and address global sustainable development programmes, the road development plan, that would strengthen and promote overall economic growth in the district (GOEC-NEPAL 2013) has been implemented. At national level, the rural development plan of 1999 laid the important foundation in this regard. At the local level, advocacy and efforts of the local politicians, in support of the demand of communities, fuelled the grassroots movement. Elaborating on these events,

a government official and a political party member informed: “The rural development plan was aimed at linking district headquarters with national highways, under the leadership of the DDC and respective VDCs,” (local development officer, Mustang).

“The road was the demand of farmers and traders. The district level politicians approved the plan and took it to the national level to be approved,” (former member of parliament – Unified Marxist-Leninist, Mustang).

The main purpose of the plan lies in capturing the benefits from the enormous Indo-China trade opportunities, large hydropower potentials, high value agricultural products and tourism. In addition to this, Mustang’s historic geopolitical and economic context, in being at the epicentre of the ancient trade route between lower parts of Nepal and India and the Central Asian expanse of Tibet, Mongolia, Russian Turkistan and Eastern China (PEISSEL 1967; MANZARDO 1977; MESSERSCHMIDT 1982; VINDING, 1988; GRAAFEN and SEEGER 1992–93; HAFNER et al. 2003), have been significant factors that contributed the district’s role as a potential strategic economic transit corridor. Historical evidence, such as the existence of the cave settlements, the cartographic and written records of trade routes, prepared as early as late 18th and early 19th century, and the trading that were done in silver coins from all over the world (e.g. French silver francs, American silver dollars, Egyptian piasters, Chinese dollars and ancient Austrian schillings), all indicate the intricacies and extent of the trade and dominant position of the Kali Gandaki valley in the Himalaya (PEISSEL 1967; GRAAFEN and SEEGER 1992–93).

To date, a total of 258 km of road network has been planned in the district (GOEC-NEPAL 2013). It is divided into the Pairothaplo-Jomsom-Ghoktang or Strategic Road Networks (SRN), the District Road Core Networks connecting the VDCs with SRN and Village Roads (Fig. 2), constituting a total length of 151 km, 27.34 km and 79.51 km respectively. SRN is managed by the Department of Road, Pokhara, while the District Road Core Networks and Village Roads by the Mustang DDC and its VDCs respectively (GOEC-NEPAL 2013). The SRN links the national highway of Nepal with the Tibetan Autonomous Regions of China, while the District Road Core Networks connects the SRN with the VDCs. Construction of the first phase of SRN i.e., the Pairothaplo-Jomsom section was completed in 2007, while the second phase between Jomsom-Ghoktang (the Nepal-China border) is underway. Once the SRN stretch between Samar and Ghemi is

completed, the district will have an operational fair weather road.

The different processes influencing road development in the district and its impacts are the product of wider environmental, socio-economic and political conditions and their interplay. This has resulted different impacts and development outcomes in the case study area.

5.2 Environmental and socio-economic impacts of the road

The construction of the SRN, District Road Core Networks and Village Roads fall within the intensive use and protected forest zones. Of these, two Village Roads fall within the sensitive area identified as protected forest zone (see Fig. 3). Furthermore, the road induced development pressures have transformed the landscape to an unprecedented scale. Pressures ranging from sprawl, intense farming and horticultural practices, and commercial extractions of forest and water for timber and energy are important threat factors. Figure 3 provides insights in understanding spatial change observed in the area.

In the southern Mustang (south of Tukuche VDC), the only forested area in the otherwise semi-arid district, dense forestlands have been cleared to construct Pairothaplo and Kobang stretches of SRN and the Village Road. As land is cleared, divided and developed, cross-boundary movement of the endangered wildlife, vegetation cover composition and other relevant ecosystem functions are likely to be significantly disrupted. This is an important emerging threat for the bird species. The BirdLife International identified the southern Mustang area of the ACA as global hotspots for bird species (BARAL and INSKIPP 2005), while Ghasa area is the only known area in Nepal where all six resident Himalayan pheasants have been reported, including cheer and tragopan pheasants (INSKIPP and INSKIPP 2001; LAMA and VEN DER POEL 2006), which are globally near threatened pheasants (BARAL 2009). Rapid pace of sprawl due to land conversion for housing is also altering the landscapes. Besides sprawl, land speculations and changing traditional subsistence farming system into commercial intensive farming, are also altering the landscapes in the district. Although factors such as lack of labour, rising labour costs, less productivity have been blamed for land speculation, road accessibility is the biggest and the most significant factor triggering such changes. The participants from Lete, Kalopani and Ghasa areas informed that since past 4-5 years, the farmlands in their



Fig. 2: Mustang District Road Networks

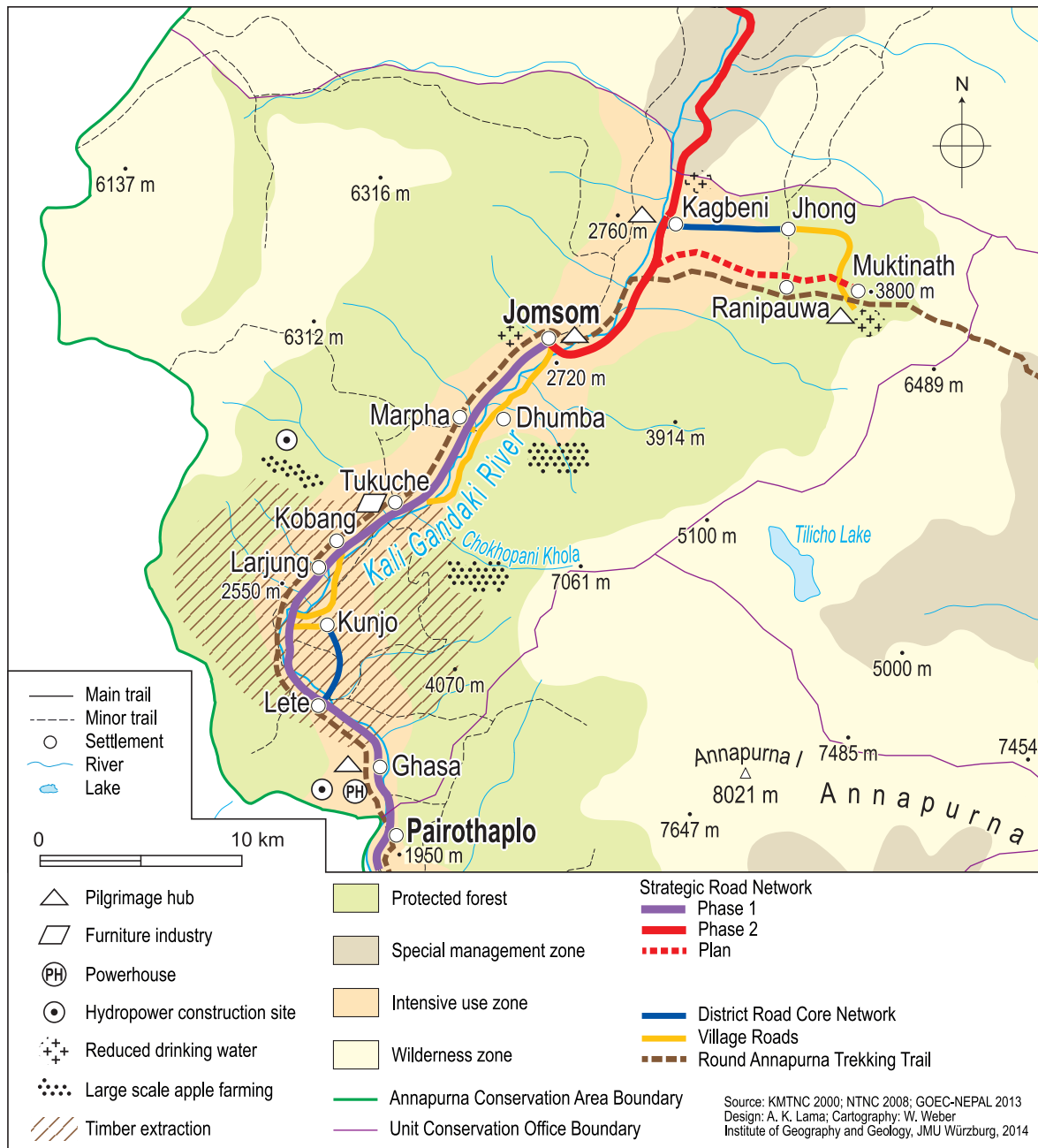


Fig. 3: Road induced land use change in the study area (Sources: Interview data, transect walk, KMTNC 2000, NTNC 2008 and GOEC-NEPAL 2013)

villages, have either been left fallow or put into forest plantation. “Until 4–5 years ago we used to lease the farmlands for cultivation, but now they are left fallow. While we already have a road here, those land in future may become excellent plots. Many people who have come from the cities are requesting me to find nice plots for building new homes,” (mothers group chairman, Kalopani). Pressure on the forest resource

for timber production is another important impact. Southern Mustang, especially Kunjo-Lete-Kobang-Tukuche VDCs, being the greenest area of the district, although has always been the source for timber extraction, since the operation of the road, the demand for, and the quantity of the timber production have increased many-folds. Views of a farmer from Tukuche and an ACAP official indicate the nature and extent

of this problem: “In Tukuhe, everyday an average of 200 to 400 cubic feet of trees are being cut. What is also worrying is that people are chopping down even the good and healthy trees,” (farmer, Tukuhe).

“Demand for timber in upper northern belts for housing and other activities has increased pressure in the forests of Lete, Kobang and Tukuhe VDCs,” (ACAP officer in charge, Mustang).

Energy demand especially for hydro-electricity has been the focus of both global and local interests, and the most significant impact of the road-induced development trend. The Kali Gandaki River Basin with a total catchment of 46,300 sq.km (BAJRACHARYA et al. 2011), is the big headwater tributary of one of Nepal’s major Himalayan river systems, which joins to become the Gandak River Basin, the major river system of south Asia. Until now, Hydropower with the capacity of 11.2 MW in Tukuhe and 164 MW Kali Gandaki Gorge Hydropower Project in Lete (*Myrepublica* 2013), have already been planned. Feasibility studies of about 22 projects with power generation potential of about 652 MW have also been identified (CEPAD 2011). The increasing interest of the Indian and Chinese governments on the Kali Gandaki River and the resulting energy diplomacy has made the Mustang district an international political economic battleground. Besides the demand for energy, increased sprawl and tourism activities have also put tremendous pressures on water resources, a crucial issue for long-term livelihoods, including tourism. Concerns over the reduced drinking water availability in the hub areas such as Puthang, Kagbeni and Muktinath have been expressed by the hoteliers. Since the operation of the road in 2007, these villages are the hub area for those on a pilgrimage to Kagbeni and Muktinath shrines. Increased settlements and tourists number all contributed to the excessive demand on water: “The major issue in Puthang is the scarcity of water. In my hotel water comes once daily and that too not more than 300–400 litres,” (hotel owner, Puthang).

Socio-economically, road connectivity has intensified the integration of the local economy with the global. Although livelihood diversity has been the core essence of the survival strategies of the community, road accessibility has increased their scope, beyond subsistence level of production. Its impacts however, are mixed. This is mainly discussed in terms of tourism and farming, two key livelihood service provisions in the district.

Since the operation of the road in 2007, the area is under great pressure from increased tourism and farming activities. There has been a substantial

change in tourist arrivals, tourism activities and demography. Since 2007, tourist arrivals indicate an average of 38% growth annually (Fig. 4). On average, between 2007 and 2011, more than thirty thousand visitors per year arrived – an impressive figure when compared with a local population that stands at 7,895. Although the Census report of the Mustang district indicates a minor de-population trend (from 14981 in 2001 to 13453 in 2011 (DDC 2010; CBS 2014), the pressure is generated by the combined effect of the increased in-flows of tourists and economic migrants coming from other districts.

Tourism activities now range from trekking and pilgrimage to adventure sports and leisure activities. Changing tourism forms have changed the tourists’ demography and their country of origin. Once mainly visited by young and thrill seeking backpackers and environmentally conscious trekkers, the place now receives a mix of tourists (such as international, Indian and domestic) of diverse ages (who now can travel in vehicles). The Indian and domestic tourists predominantly are pilgrim paying homage to Muktinath and Kagbeni. For thousands of years the Kali Gandaki River, together with the Muktinath shrine has been the sacred sites for millions of Hindu followers from India and Nepal (PEISSEL 1967). Villages such as Ghasa, Puthang, Kagbeni and Muktinath have now emerged as the new hubs for pilgrimage visiting such religious sites.

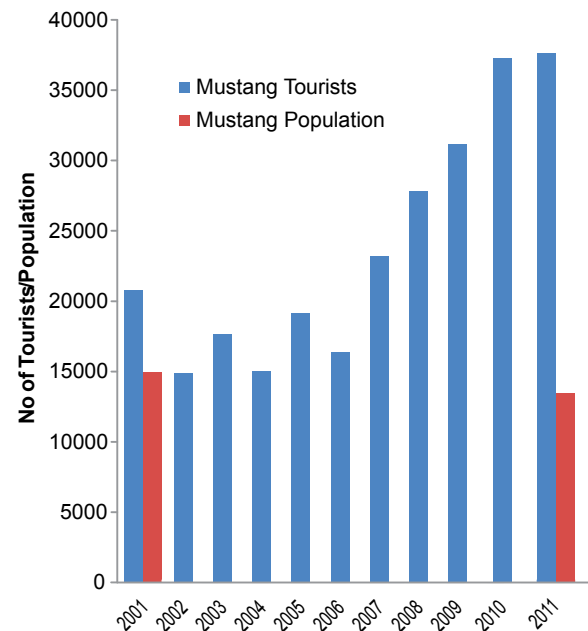


Fig. 4: Tourists arrival trends in the study area (Source: ACAP Tourist Check post, Jomsom)

Road connectivity has also created renewed opportunities for local farmers in producing fruits and vegetables that are in high demand in the cities. Apple farming and production has now become the mainstay of most of the farmers in the area. Similarly, a new trend of community owned large scale apple farming projects has been observed in Tukuche and Jomsom VDCs. Apple farming covers 41% of the total area designated as agricultural land and represents 72% of the district's total fruit production (NTNC 2008).

“The main profession of most of us in our area is apple farming. Because of the road we now have an easy access to supply our fruits and other agricultural produce to the markets of Pokhara and Kathmandu,” (farmer, Tukuche).

These positive impacts in tourism and farming, however, are not without social cost. One of the major negative socio-economic impacts and perhaps the most important from the PA sustainability point of view is the impact in trekking tourism. Recognized as the most environment friendly form of nature based tourism activity, Trekking has been negatively affected by the road. The SRN built on Jomsom/Muktinath Trekking route of Mustang district, is a part of Nepal's premier trekking route – the Round Annapurna Trek that starts from Besisahar, passes through Marshyangdi valley and down the Kali Gandaki valley, ending either in Tatopani or Nayapul (LAMA and VAN DER POEL 2006) (see Fig. 2). The operation of SRN has reduced the classic seven to eight days long Jomsom/Muktinath trek, to just two to three days. The majority of trekkers now travel in and out of Jomsom or Marpha by vehicle, avoiding Lete, Kobang and Tukuche villages en route. The impacts of such change are negative, yet disproportionate, and range from the loss of business to its displacement or shut down. Owners of large hotels and lodges are minimizing the risks of the impacts by adopting apple/vegetable farming and investing in the transportation business, while those operating small local inns and restaurants, have either been displaced, or moved out of the business.

“I used to operate a hotel but now due to road network, trekking tourism has declined, so instead I started apple farming, keeping hotel business as the side job. I am also buying a bus to start a transport business. You see, we need to change our business according to changing situations” (hotel owner, Tukuche).

“Vegetable farming is doing good business because our seasonal vegetables are off season in the cities. The situation is such that now we fear we may not

get them to eat or may be costly for us, in due regards to their mass export” (hotel owner, Puthang).

In terms of farming, although the road operation has undoubtedly increased the production and value of agricultural produce in the district, its benefit spread is not equitable. Rich farmers have large tracts of land to engage in fruits and vegetable farming for large scale commercial production, while poor farmers, who have limited means and access to social and financial capital to seize the opportunities, are confined to subsistence farming. Product scarcity (e.g. lentils, potatoes, maize, wheat, barley, apples, vegetables, local spices) caused by several factors such as low supply, increased demand in Pokhara and Kathmandu and price inflation are other contentious issues. Out-migration of the local youth for education and jobs have resulted in labour shortages (*The Himalayan* 2014, August 17), affecting farming productivity and supply in the district. The product scarcity phenomenon has increased the price of the produce 5–6 times higher than before the road operation (LAMA 2010).

5.3 Governance spectrum

The Mustang district is embedded in a multilevel governance scale – from global conservation and development contexts. The interaction and interplay, between and among various institutions at different scales, have resulted in complex spatial divisions and a contested web of networks and relations. In figure 5 environment governance-related interactions are marked by green arrows and development issues by black. Since the scope of study is at the Mustang district and its local level, governance spectrum of this scale is explained in detail.

From the environment governance point of view, the country's National Parks and Wildlife Conservation Act (1973), provisioned by the Department of National Parks and Wildlife Conservation of the Ministry of Forest and Soil Conservation, provides an important legal basis for the National Trust for Nature Conservation, at national level to manage the ACA via the ACAP (HEINEN and KATTEL 1992a; NTNC 2008, 2012; THAKALI 2012) at the district level. The ACAP promotes participatory resource management, to facilitate conservation and development work both at the district and local level. The Conservation Area Management Regulation (1996), provides an important legal basis for its community conservation institutions such as the Conservation Area Management Committees and its sub committees, for wider participation, empower-

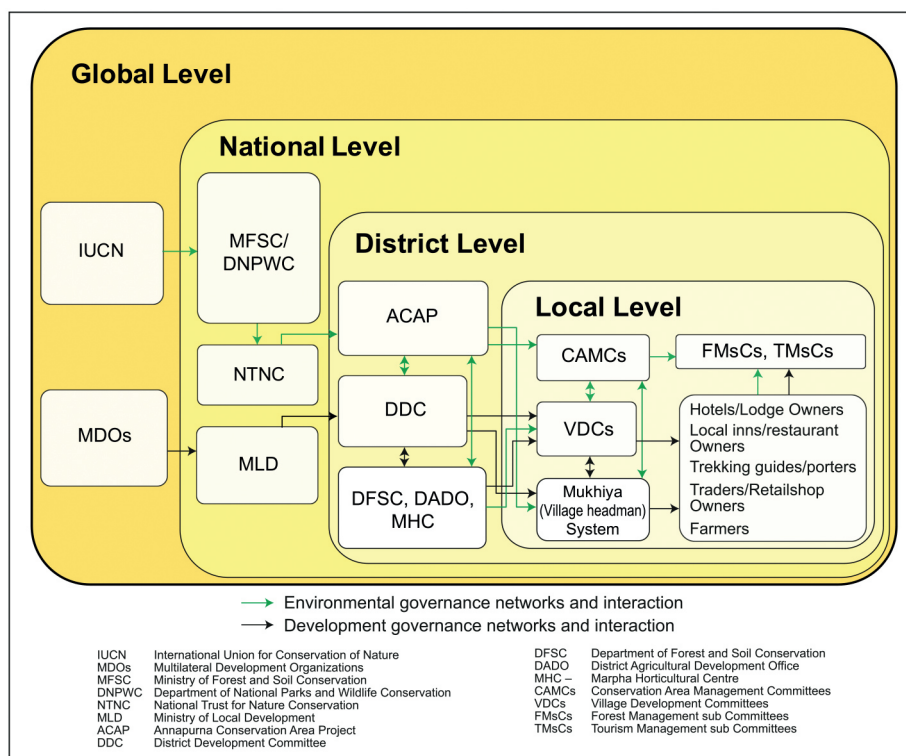


Fig. 5: Governance landscapes within the case study area

ment and exercising of authority to implement conservation initiatives (BAJRACHARYA et al. 2007; BARAL et al. 2007; BARAL et al. 2010; NTNC 2008; OJHA and SARKER 2012).

From the development perspective, the Local Self Governance Act, provisioned by the Ministry of Local Development, strengthens the local government institution (e.g., DDC) to carry out the development work at the district and village level. The Local Self-Governance Regulation (1999) strengthens the VDC to facilitate development activities at the village level. District-based institutions from different government departments are key partners of DDCs and ACAP in this process. The customary institution such as the Mukhiya system, while not within formal governance structures and functions, plays a crucial role in the village resource governance and social affairs, carried out in partnerships with district and local level institutions. The legislation mandates DDC to form a collaborative inter and intra district level partnerships and for this, its VDCs work in partnerships with the Conservation Area Management Committees and Mukhiyas. These bottom-up initiatives are fed into the district level system of governance (i.e., ACAP and DDC) to mainstream into the district-wide conservation and development policies.

Although the democratization of the conservation and development policies has resulted in new opportunities for collaboration, there are several challenges too. The challenges mainly stem from the policy ambiguity and changing roles and responsibilities of the local institutions. The policy ambiguity due to the overlaps between the National Parks and Wildlife Conservation Act and Local Self Governance Act had affected the functional ability of the ACAP and other customary institution. Prior to the Local Self Governance Act, the ACAP and its community conservation institutions played leadership role in the district. When asked about the roles and responsibilities of the institutions, ACAP's official informed: "In resource conservation related matter the Conservation Area Management Committee is the major institution. VDC is responsible for village administrative jobs, while Mukhiya plays major role in preserving cultural and religious heritage and village affair," (ACAP officer in charge, Jomsom).

However, the changing policy landscapes have blurred the traditional boundaries in due regard to the expanded jurisdictional and working boundaries of the VDCs and DDC. Their rights over the commercial utilization of the resources within the VDCs, changed the entire resource management dynamics

in the district. This has not only challenged the conservation initiatives, but also undermined the influence of ACAP and Conservation Area Management Committees. Until now, the dominant focus of the works of ACAP and Conservation Area Management Committees has been forest conservation with subsistence households' use. With the commodification of the resources by DDC and VDCs, new market opportunities have opened up previously unseen landscapes and resources for exploitation. The value addition to the resources brought by the reregulation process has territorialized the resources for capital accumulation. The impacts on forests for timber extraction and water bodies for hydro-electricity are likely to be the major environmental issues and management challenges for the ACAP and its Conservation Area Management Committees in the immediate future.

The changing roles and responsibilities of the DDC and VDCs in the community and thereby its influence and functions, are another important dimension affecting the governance context. The mandate for inclusive decision-making and participatory development has made it compulsory for the district and village-based institutions to coordinate with DDC. Besides this enhanced role, the DDC is also in the position of having hefty amount of funding to oversee the development activities (BARAL et al. 2007). The central treasury and tax collected from the commercial utilization of natural resources within each VDC (NTNC 2012), form the major source of funds. The latter source comprises 50% of the royalties from hydropower, 30% of tourism fees, 50% of mining fees, 10% of forest products and 90% of land registration (THAKALI 2012). Since the operation of road, donations from China and India have also increased. With such substantial increases in funding status of DDC, intensification of the development activities has been the most striking change in the area, most of which are being utilized to finance the proliferating infrastructure development projects. Views expressed by the Department of Forest and Soil Conservation officer and VDC secretary highlight this issue: "DDC and other donors (Chinese and Indian embassy) are providing millions of rupees to support building projects. In addition to this, each VDC has a budget of 2.1 million rupees. The villagers treated this money as if it is coming from their own pocket and is blindly used in building constructions and road projects," (Department of Forest and Soil Conservation officer, Jomsom).

"Our village is promised of 1 million rupees for constructing village roads of which half million has

been dispatched and remaining half will be received after the completion of the project," (VDC secretary, Tukuche).

Access to power and equity are another important dimension affecting the decision-making and social outcomes. Contestations among the different socio-economic groups representing various social stratum have resulted in uneven development in the district. Intensification of the localized political economic problems, with regard to the exploitation of the resources for profit maximization by the existing social elites, are important factors affecting the social outcomes for the poor. Mustang's community, by virtue of being a hegemonic society, social elites and higher caste community are in the receiving end of this new found economic opportunity. Such trends highlight the socio-political issues related to the question of equity and justice.

"Only handfuls of people are well off in this district and they control most of the business and resources. They also have access to power and decision making platforms. The road has just added another opportunities to maximize their profit. They are the ones who operate transport services and who have large landholdings for mass agricultural/horticultural export. As long as the majority of people are poor and have no access to resources and decision making opportunity, there will be no alleviation of poverty," (small inn owner, Lete).

In the context that Nepal is going through a period of instability and political factionalism, the effect of this is also reflected in the environmental governance and development contexts. From the conservation perspective, changes related to shifting power (from Nepal being a kingdom to republican state), has resulted in the loss of royal patronage for National Trust for Nature Conservation. This to a large extent has undermined the political influence of the ACAP and its community conservation institutions against development institutions. In addition to being a model PA management approach, much of the huge success of ACAP is attributed to the fact that it was a high profile project supported by the King and his influential networks (see HEINEN and KATTEL 1992a; CROES 2006). From the development perspective, a power vacuum in the district and the lack of elected government representatives in the aftermath of the decade-long Maoist war, have left the community politically radicalized. The weakening authority of the institutions, rule of law and justice have hindered the capability of the institutions to deliver basic services. This has also resulted into formidable problems in the way of negotiating con-

servation interests over development interests. This has become a fatal combination, causing participatory resource management going astray. "Changes in the political regime, state of anarchism and changing socio-economic structure are making people loose moral grounds and become out of control. It has become difficult for us to implement activities in our village," (former Conservation Area Management Committee chairman, Lete).

6 Discussion: changing development realities

In a world of global-local forces of political, environmental and economic change, increasing development pressures in the Mustang district are likely to become a major sustainability challenge for the ACA.

From the findings, it can be inferred that the road construction project to promote sustainable development, has its root in the global and regional economic development thinking and trend of the corresponding time. Changes concerning Nepal's dependency on the multilateral development agencies and its political and economic commitments to alleviate poverty and rising economy and global positioning of China and India, all contributed in this respect. The historical context and evidence suggesting the Kali Gandaki valley is the epicentre of a trade and pilgrim route, beyond the scope and scale of local economic functions (PEISSEL 1967; GRAAFEN and SEEBER 1992–93; HAFFNER et al. 2003), further enhances the strategic importance of the road. Such development has reinvigorated the geopolitical landscape and economic position of the district.

The road at present is an 'Earthen Fair Weather Road', and there are major political, managerial, technical and financial aspects and intricacies which need to be accomplished before it can be a functional transit trade corridor, connecting India and China. Yet the accomplishment of SRN construction has already invigorated the strategic interests of Chinese and Indian government. Since 2007, contestation of these two countries for development, mainly in education, infrastructure and hydropower has increased (THAKALI 2012). GERWIN and BERGMANN (2012) in a study of the Kumaon Himalaya of northern India highlight a similar trend, where the local government's plan to construct a road linking China and India began after the globalization process in the 1980s. The plan has been to develop market-based approaches to development, via harnessing resources for trade, hydroelectricity and tourism. These findings suggest that the road development in the

Himalayas is part of the global change processes, signifying the global nature of the local development trend.

The findings also suggest that the road-induced development process is clearly unsustainable in our case study area, both in environmental and socio-economic terms. Environmentally, the changing scale and composition of the economic activities and large-scale commodification of the resource have two implications. First, land use change is an important issue from the biodiversity conservation and ecosystem service provisions point of view. The benefits provided by ecosystems such as land, forests, water, species and ecological process, cannot be replicated in intensively altered landscapes (STOLTON 2010). Studies have found land cover change and other socio-economic changes to have complex consequences for ecosystems (GÖSSLING and HALL 2006). Second, the culture of mass consumption be it of timber, energy or water, is fundamentally incompatible with the principle of sustainability, in a strict sense (BLÜHDORN and WELSH 2007).

Socio-economically, the growth of tourism indicates that the future tourists will be very mobile and their activities very diverse, ranging from short treks and pilgrimage to sightseeing and adventure sports (such as mountain biking and motorbike ride) (LAMA 2010). Such phenomena have not only changed the geographical and temporal aspects of tourism activities, but also transformed the homogenous niche based nature based tourism into extremely complex and dynamic market (LAMA 2010). The low environmental and social carrying capacity (NYAUPANE and CHHETRI 2009) and the intense pressure from such diverse market forces are likely to make Mustang very sensitive to these changes. The globalization of local economy and the associated process of proliferation of economic activities have resulted in intensification and territorialisation of the resources for capital accumulation. The implication of this emerging trend can be seen in terms of more pronounced uneven benefit and cost distribution within communities. Our findings suggest that the intended economic opportunities and benefits for the poor, in true sense, are serving the interests of the global and local social elites, be it tourism, farming, trade or hydroelectricity. We therefore argue that the emerging economic opportunities brought by the road, have in fact, further intensified the localised political economic problems, invigorating the moral dimensions of resource use and benefit. Our finding is in conformity with BECKEN et al. (2013), who found that wealthy communities of Mustang district were involved in a

range of capital-rich economic activities, including tourism, transport, horticulture and trade. Widening of the socio-economic disparity and inequalities is an alarming issue for Mustang, while poverty is starkly pronounced in the district. According to NTNC (2008), the poverty index for the district exceeds the national average of 33%. 2003/2004 Nepal Living Standards Survey estimates 30.8% of population (27 million) live below the national poverty.

The paradox concerning the existing social structure and power hegemony is important context resulting in asymmetrical power relations among different institutions at different level of governance scales (LITTLE 1999). In our view this is one of the most crucial factors influencing development processes and outcomes for the poor. Support for this argument is found in KAPLINSKY (2010) and CONTU and GIREI (2013), who suggest that the deepening of inequality and poverty endurance has its root in the nature of the institutional process of development and political economic factors. Thus, the traditional theoretical approach to rural development based on the pervasive economic growth – linkages thinking (BERG 2008), is an outdated notion and that poverty alleviation needs to move away from the rhetoric of this conventional narrative. The widening socio-economic disparity and inequalities should be a major concern for Nepal, as the country knows too well the cost of inequalities. The decade-long Maoist led civil war and the political instability, from which the country is still suffering, had its root in rural poverty, social and income inequalities (SHARMA 2006). Failure to address these social issues may have implications in terms of social legitimation of the PA (CAMPBELL 2005) and resource use policy by those suffering the most. Within this premise, socially framing the conservation and development problems is therefore very crucial.

PA sustainability is also challenged by the changing governance contexts. Multi-layered factors from the shifting of global-local conservation and development policy to democratization of the power and PA management regimes have made resource governance among the most complex and challenging of issues. The complexity arises both from policy and process gaps. Within the former, fragmented and conflicting policies and contested governance are the main issues. As RAI and PAUDEL (2011) have found elsewhere, policy ambiguity in Nepal resulting from spreading of the resource use rights and responsibilities have resulted in contested governance and inadequacies on sharing power and authority between the DDC and ACAP. At the process level, several factors

ranging from the changing roles and responsibilities of DDC and ACAP, their weak coordination to the inherent socio-political factors (such as power hegemony) are the major impediments in facilitation of genuine participatory resource governance and decision making. In line with what BARAL et al. (2007) have suggested, although the participation and empowerment of local people is a well acclaimed success in the ACA, the institutional operational processes that still have elements that contribute to control of resources, development process and decision making platforms by the political and social elites, is a major issue of contention. Similarly, the changing political regime and the blurring of the boundary of political influence of ACAP are important governance challenges. These shifting paradigms have crucial consequences for the understanding of power relations in conflicts relating to conservation (KOENSLER and PAPA 2013). Given these contexts, the scope of the problems extends beyond the scale of local level governance and capacity of one institution. Also, it is not something that can be solved by the traditional approach of hierarchical governance and hegemonic power relations.

7 Conclusion: rethinking PA sustainability as a political and social process

The ACA is well known in Nepal and beyond for its participatory approach in PA sustainability that began with the ACAP in 1986. However, the construction of the Pairothaplo-Jomsom-Ghoktang road in the Mustang district has become the most crucial sustainability issue, changing the scope and scale of sustainable development discourse in Nepal. What does this finding tell us about PA sustainability?

First and foremost, the context behind, and the rationality for the road development in Mustang emerged from the global-local forces of change. The changing geopolitical context resulting from this process has given rise to a new configuration of spaces and scales of governance. The district is thus embedded in both global and local environmental and development contexts, signifying its functions beyond its specific place location. Second, multiple drivers of change and their interplay such as the neoliberal economic restructuring and policy reforms, globalization of local economy and the underlying contestations constructed through global and local conservation and development priorities, have not only intensified resource use, but also frag-

mented it to capital accumulation. The prevalent political economy and equity issues, in due regard to the historical contexts (environment, economic and socio-political factors), have brought additional opportunities for the global and local social elites to maximize the benefits, with limited opportunities for poor local community. This has further intensified the localised political-economic problem and invigorated the moral dimensions of the sustainability issue. We therefore argue that poverty alleviation for sustainable development needs to move away from the rhetoric of the conventional economic growth narrative. Third, political regime change, contested governance between ACAP and DDC, and the blurred boundary of the political influence and power relations of ACAP and its community conservation institutions are the most contentious issues, giving rise to complex management challenge and institutional dilemmas. It can be said that sustainability is a socio-political issue, within which the politics of interest and power relations play a key role in the long way to attain fairer PA governance (ARMITAGE 2008; FORSYTH 2008; VARGAS-DEL-RIO 2014; IUCN 2013).

These development trends warrant the rethinking and reframing of the ACA management paradigm, towards one that promotes the humanization of economy, justice and equity, rather than economic output and growth. The contemporary sustainability challenge in the ACA extends beyond the scale of local level governance and capacity of one institution. Recognizing the limits of the current system of governance, there is an urgent need for: i) a multilevel governance approach; and ii) a move away from the conventional view of institutions as static entities with distinct boundaries towards more flexible, dynamic and adaptive institutions (BECKEN and JOB 2014). Given the empirical evidence, sustainability in the context of road development in the ACA should be understood as a broad concept where political, environmental and socio-economic processes related with the dynamic changes observed at the global and local levels and multilevel governance play a crucial role. Beyond economic policy rhetoric, sustainability in the ACA relies on many political and social interactions, for which in-depth understanding of human environment relationships to the development process is of utmost importance. This is a fundamental basis for dealing with the contemporary sustainability issues in the ACA, and supports our theoretical premise that sustainability principles, in the context of conservation and development, should be a social process and not an end state.

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