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Mapping historical and contemporary agrarian transformations and capitalist infiltration in a complex upland environment: A case from eastern Nepal

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Abstract

The relationship that mountain communities have with global capitalism are complex, being mediated by a diverse topography and ecology, both of which provide opportunities for capital accumulation, while also isolating older, "pre-capitalist" modes of production. This paper takes a case study valley from Nepal's eastern hills, tracing over two centuries of agrarian change and evolving interactions between "*adivasi*" and "semi-feudal" economic formations with capitalism. In recent years, the expansion of markets, rising demand for cash, and climate stress have solidified migrant labour as a core component of livelihoods, and the primary mechanism of surplus appropriation from the hill peasantry. Through a focus on three altitudinal zones, however, it is demonstrated how the trajectory of this transformation, including the interactions with persisting pre-capitalist formations, is mediated by both political–economic processes and the local agro-ecological context.

KEYWORDS

capitalism, climate change, livelihoods, markets, Nepal

1 | INTRODUCTION

Following three decades of economic restructuring in the global South, the relationship that mountain communities have with the global capitalist economy remains ambiguous. Upland regions are unique in that they are often far from centres of capitalist production, and the influence of centralized state formations and capitalist markets are often mediated by local physical geography. Topography itself facilitates the emergence of considerable diversity and coexistence of language, cultures, and modes of production, with implications for how they relate with capitalism. Through a case study from a valley in eastern Nepal, this paper seeks to unravel some of the complex interactions

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between ecology, topography, and political economy that have mediated the trajectory of rural economic change over the past two centuries.

1.1 | Mountain regions and capitalism

Dunaway (1996) notes that contrary to common myths that mountain regions have been spared the onslaught of capitalist development, they have instead been important frontiers for the exploitation of resources by capital. Mountain regions, for example, can be prime sites of large-scale land acquisition by capital, the extreme aspect of so-called "accumulation by dispossession" (Harvey, 2003). The classic examples include hydropower development, which is particularly relevant in upland regions of South-East Asia (Barney, 2009) and India (Nilsen, 2008). Other examples include mineral extraction, as Perreault (2013) reviews with respect to the Bolivian Andes.

A further contradiction in upland regions is that the topographical extremes that can restrict integration into capitalist markets in some locales can also make these regions favoured locations for cash-crop and plantation-based economies, with tea cultivation in the Indian highlands being a prime example (Hayami & Damodaran, 2004). Cash-crop economies themselves can be critical in tying peasants to capitalism through the market (Araghi, 2009; Bernstein, 2003; White, 1997). Given the finite resources and fragility of the ecosystem, commercialized agriculture in uplands often represents a process of short-term profit maximization by lowland enterprises, and can often lead to long-term degradation (Dunaway, 1996). At the same time, Paudel (2016) has shown, from Nepal, how community institutions and peasant producers have been harnessed by capitalism to harvest high-value forest products while also protecting the ecosystems on which capital accumulation depends.

1.2 | Mountain regions and the persistence of the "pre-capitalist"

While it is clear that mountain regions are by no means isolated, it is important to emphasize that the influence of capitalist markets in mountain areas is highly selective (see Sugden & Punch, 2014), with scholarship often being too fast to assert the inevitable dissolution of older economic formations. While not applied to upland regions specifically, there is a range of literature that has in the past engaged with the concept of "pre-capitalist" modes of production—namely the economic formations that predate the establishment of capitalist social relations.

A starting point is to define the concept of mode of production. The most systematic definition is by Althusser and Balibar (1968), who state that the mode of production is constituted by three "elements," the means of production, the labourer, and the appropriator of surplus labour. These are in turn structured by two "connections": the relation between the labourer and the means of production (the forces of production), and the property relation, which defines the how surplus is appropriated and put to use (the relations of production). Importantly, it is emphasized that in a given social formation, both capitalist and pre-capitalist modes of production can coexist and articulate, with flows of surplus between them (Althusser & Balibar, 1968, pp. 212–215). This begs the question of what kind of "pre-capitalist" modes of production may persist in peripheral upland regions of the global South.

One of the most established engagements with "pre-capitalist" economic formations in the postcolonial era was the Mode of Production debate in the 1970s and 1980s, which sought to determine whether Indian agriculture was characterized by capitalism (see Rudra, 1974) or a pre-capitalist mode of production termed "semi-feudalism" (see Bhaduri, 1973, 1977; Prasad, 1973). Clear definitions of "semi-feudalism" (or indeed capitalism) were lacking, but usually cited was the presence of landlords controlling large estates farmed by sharecroppers, and bondage to landowners through usury (Bhaduri, 1973). "Semi-feudalism" in this context can be considered a variant of a broader "feudal" mode of production. An attempt at a loose definition of feudalism (which differentiated it from capitalism) was made in an earlier study from Nepal (Sugden, 2013). It draws upon Marx, and upon R. S. Sharma's analysis of historical Indian feudalism, to define it as a mode of production grounded in the concentration of landed property, in-kind surplus appropriation (often facilitated by extra-economic coercion or debt), and use of surplus for consumption rather than productive reinvestment. Interest in "semi-feudalism" persists, with continued debate over whether the concept is still relevant in light of contemporary globalization and migration (Basu & Das, 2013; Harriss, 2013; Rodgers & Rodgers, 2001).

Regardless of where one sits in these debates, what does seem apparent is that research on "semi-feudalism" has traditionally been focused on *plains* regions with a history of hierarchical state formations. Shah (2013) notes, with regard to the central Indian uplands, that in contrast to the lowlands, where many of these debates were centred, the economic formation is neither capitalist nor semi-feudal in the traditional sense.

There are, however, a vast number of other pre-capitalist modes of production that are relevant in upland regions. Of particular interest in the context of South Asia are the *adivasi* or "tribal" communities that reside across the central Indian uplands and the eastern Himalaya. While there has been considerable research on *adivasi* communities, there are only a few studies that have engaged in depth with the contemporary mode of production. Shah's (2013) study seeks to understand the mode of production amongst *adivasi* communities in India's Jharkhand state, set against the context of the long-running Maoist insurrection. It tracks the evolution from an economy based upon shifting cultivation, with limited private property for land, to one based upon smallholder peasant farming, following enclosure of forest lands and in-migration of settled agriculturalists. While the relations of production are not "capitalist" in the traditional sense, the paper tracks the growing links with capitalism through labour migration.

In another fascinating study from the hills of Madhya Pradesh, Singh (2007) analyses the *adivasi* social formation, identifying its unique relations of production grounded in collective ownership of land and redistribution of surplus. It is driven by the survival and reproduction of the clan rather than accumulation of wealth, often associated with the veneration of clan deities. The study analyses the internal changes in relations of production and its relationship with capitalism, drawing links with the process of religious proselytization. Singh's paper again highlights the role of migration in mediating the articulation between the *adivasi* economic formation and capitalism in peripheral regions. The study draws upon the African work of Meillassoux (1981), which stresses the role of the domestic economy of the village in a tribal or "lineage" mode of production, in reproducing a labour force for capitalism, paralleling a rich tradition of scholarship on Africa (Dupré & Rey, 1979; Seddon, 1978; van der Klei 1985). Although these Africa case studies are not from "mountain" regions, they are of critical relevance in understanding how pre-capitalist economic formations in peripheral locales are able to both resist capitalist expansion through political and economic processes, while also supplying it with surplus. They are also important in their acceptance that more than one mode of production can *coexist* with flows of surplus between them. This represents a move away from debates over whether an economic formation is capitalist or pre-capitalist, and instead accepts the presence of both, and seeks to chart the complex interaction between them.

This paper draws upon these past analyses of the pre-capitalist mode of production, both in South Asia and beyond, using a case study from the Nepal Himalaya. This region represents many of the contradictions and complexities of mountain communities in an era of globalization. The social formation is marked by the coexistence of both indigenous *adivasi* (known locally as *janajati*) as well as caste Hindu communities, who have carved out unique forms of economic and political organization over the centuries, amidst the country's diverse topography. At the same time, unlike India's tribal belt, which had often been a frontier between lowland state formations, Nepal has long been home to a number of powerful hill-based ruling dynasties.[1] The state in Kathmandu has historically had considerable success in appropriating surplus and exercising political control over even the most isolated villages through mechanisms more often associated (at least in the South Asian context) with plains kingdoms (Regmi, 1976). For this reason, over the centuries there has been a coexistence of tribal, peasant, and feudal modes of production, even within a small geographical area.

There were a number of in-depth studies from the 1970s, which have analysed changing relations of production in the Nepali hills (Caplan, 1970; Macfarlane, 1976), and some have gone further to analyse linkages between the village economy and capitalism in the centre, relating it to Nepal's structural position in the global economy (Blaikie, Cameron, & Seddon, 2001, 2002a, 2002b; Seddon, 1987). Recent studies, however, are few and far between, with a few exceptions including Fitzpatrick's (2011) study on rural class differentiation and cardamom cultivation in eastern Nepal, and a series of studies of agrarian change and food security in the Himalayas by Adhikari (2001, 2008).

[1]While there have been attempts to portray Nepal in its totality as a subaltern Himalayan space, it is easy to overlook the powerful role played by the Hindu Nepali state of the hills and its political control over highland populations in its internal colonization project (Shneiderman, 2010).

This paper seeks to take contemporary literature on agrarian change and local–global linkages in Nepal and other mountain regions a step further. First, it seeks to analyse not only the mode of production, but how it varies across Nepal's complex topography and multitude of agro-ecological zones. Second, it will seek to understand the convergence of both ecological and economic drivers of change, which are all the more acute in complex mountain environments. In particular, it analyses how the external capitalist economy is infiltrating remote communities through the sphere of circulation, and when combined with pressures such as climate stress, it is both transforming pre-existing modes of production internally, and the way in which they articulate with capitalism.

2 | THE CHIRKHUWA SUB-BASIN

The study is focused on the Chirkhuwa sub-basin, a valley that lies within the larger Arun River Basin. It is representative of many of the smaller sub-basins in the region in its size, topography, and ecology. It has an altitudinal range from 300 m at the confluence of the Chirkhuwa and Arun Rivers to 3,300 m on the Mayum Danda, the high ridge to the west (see Figures 1 and 2). It is densely populated, although all permanent villages are below 2,500 m, with the upper altitudes being heavily forested with rhododendron.

The large altitudinal range allows a range of agricultural activities, and it has thus been separated into three unique agro-ecological zones (see Figure 2). The upper settlements between 1,700 m and 2,500 m have a temperate climate, and include mostly marginal land above the rice-growing zone. As these altitudes are closer to the top of the watershed, access to springs is more limited and the streams are smaller, so most land is rain-fed. The sub-tropical middle altitudes between 600 m and 1,700 m, which are within the rice-growing domain, are fertile, with a climate that allows a wide diversity of crops. There are a range of larger perennial streams that converge in the numerous side valleys, and water availability allows some irrigated agriculture. By far the most productive land is in the lower-altitude zone below 600 m, which includes the river terraces on the valley floor. The inclination is gentle and there is sufficient water in side streams to channel it to the land through canals.

As is common in the middle hills, the trade routes and main market settlements such as Dingla bazaar and Baidar Bhanjyang lie on the ridge lines, with smaller villages scattered down the slopes. Culturally, the valley represents the ethnic diversity of the eastern hills, with *adivasi/janajati* groups living side by side with Nepali-speaking castes.

3 | METHODS

After consultation with local contacts and analysis of satellite imagery and census data, the Chirkhuwa sub-basin was chosen as it was representative of the diversity of eastern Nepal in terms of its altitudinal range and ethnic composition. Following consultation with local contacts, an initial scoping visit was carried out in October 2015 and several villages

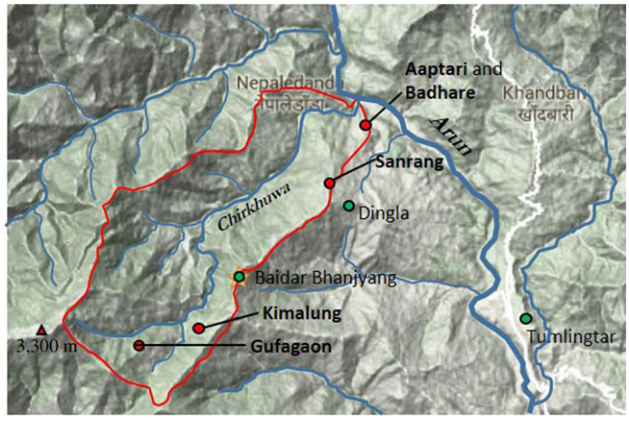

FIGURE 1 A map of the Chirkhuwa sub-basin

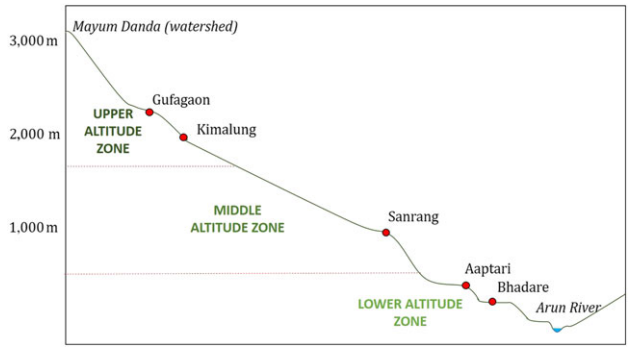

FIGURE 2 An approximate east–west transect of the valley, showing the case study locations and the agro-ecological zones

were shortlisted. Based upon the initial fieldwork, a review of the literature, and past experience working in the region, the range of the critical issues facing each of the agro-ecological zones was assessed, and three sets of villages were chosen that were representative of three domains at upper, middle, and lower altitudes. Data were collected between October 2015 and February 2016.

The core data source was a set of 159 household interviews (see Table 1). The interview was divided into two parts, a quantitative section and a more open-ended set of qualitative questions covering livelihoods, changes in investment, and cropping patterns, and migration flows. Sampling is a challenge in the hills given the lack of a reliable sampling frame. However, the villages were small enough that close to all the households were covered. Given the small size of the communities, for two sites, data were collected from paired adjacent villages, and thus Aaptari and Bhadare represent the lower zone while Kimalung and Gufagaon represent the upper zone. In parallel to the interviews, a series of focus groups were carried out, including male, female, and mixed groups. These were oriented to more targeted enquiry to address gaps in the household data or to trace historical trends and collect oral histories.

This data was supplemented with historical and archival data pulled together by the research team for previous studies (Sugden & Gurung, 2012; Sugden, Maskey, et al., Forthcoming) following a decade of work in the Arun basin.

4 | THE AGRARIAN HISTORY OF THE LOWER ARUN VALLEY: AN EMERGING GEOGRAPHY OF INEQUALITY

4.1 | The pre-Gorkhali era

The indigenous communities of Nepal's eastern hills were the *Kirat* people, within which there are two main groups, the Rai and Limbu. In the mountainous north though, ethnic groups with closer linguistic and cultural ties to Tibet have long been predominant and the Tibetan government historically controlled parts of the borderland (Lewis & Shakya, 1988). The Rai, within which are several further subgroups, have long been the numerically dominant community in

TABLE 1 The number of focus groups and interviews by community

Village name	Number of household interviews	Number of focus group discussions
Gufa and Kimalung	39	2
Sangrang	58	2
Badhare and Aaptari	62	1
Total	159	5

the lower Arun valley, and it falls within a larger cultural region known as *Majh Kirat*, which includes the most of the hilly land between the Arun and Dudh Koshi basins. Prior to its annexation by the Gorkhali kings into of the state of Nepal in 1772–1774, the *Majh Kirat* region fell under the influence of a succession of other kingdoms, yet maintained relative political autonomy (Gaenszle, 2000).

The Rai, both today and in the pre-Gorkhali era, have lived on the valley slopes below 1,800 m. Within the Chirkhuwa sub-basin, this includes the "middle" agro-ecological zone and the case study village of Sanrang. As noted above, many modes of production in *adivasi* communities in South Asia prior to colonization were known to be semi-nomadic, with redistributive and collective characteristics (Singh, 2007). In the case of Nepal, the literature is more limited, although such characteristics have been documented with regard to the remaining hunter–gatherer communities of Nepal today, who are restricted to pockets of the mid-west, yet are linguistically related to indigenous groups across the hills (Fortier, 2001). Without concrete documentary evidence, it is difficult to construct the historical mode of production in Rai villages, particularly with regard to the distribution of surplus. What is, however, known about Rai society in the pre-Gorkhali period was that it was dominated by clan-based units, with communal ownership of land and a preference for shifting cultivation and pastoralism (Gaenszle, 2000; McDougal, 1973).

Most of the land in the vicinity of a Rai village was under a form of collective ownership by the clan unit, known in later years as *Kipat* (McDougal, 1973). Waste land and uncleared forest as well as cultivated land around a community were all considered *Kipat* by the locals. *Kipat* thus made possible an early form of "community forestry." *Kipat* land was the inalienable property of the tribe, and could not be sold under customary law (Regmi, 1965, p. 82). The village chief was responsible for the allocation of land to households (Regmi, 1978). *Kipat* tenure was reported in interviews to be well established amongst the Rai of Sanrang, and the dynamics of the system are well documented in a study by Gaenszle (2000), two valleys to the north. With regard to the forces of production, agriculture was dominated by shifting cultivation, although a gradual shift to more permanent cultivation was under way with the introduction of new crops such as maize in the early 18th century (Gaenszle, 2000). *Kipat* land would be used for multiple purposes, including shifting cultivation, pastoralism, and, later, sedentary agriculture.

There were some historical migrations to the Arun valley, which led to the gradual population expansion, particularly in the forested upper- and lower-altitude zones. In the "lower" zone of the Chirkhuwa sub-basin around Badhare, one of the earliest ethnic groups to settle was the Majhi, who moved up the river valleys from the inner Tarai several hundred years ago, to operate boat ferries in the rivers and to fish (Sugden Maskey et al, Forthcoming). At some stage, they were also joined by the Magar, an indigenous group from western Nepal. Another migration included Rai subgroups from other parts of the eastern hills, who often settled on more marginal land above or around the established settlements (Gaenszle, 2000). The Chirkhuwa sub-basin is traditionally home to the Sampang Rai, but over the decades there has been migration of subgroups such as the Kulunge and Bantuwa Rai, mostly from the Dudh Koshi Basin in the west. Other settlers included Sherpa communities from the north, who spread across eastern Nepal from Tibet several centuries ago, and practice a form of Tibetan Buddhism. In the middle hills, they mostly settled along the high ridges that divide the watersheds, and there is a long-established settlement in the "upper" zone of the Chirhuwa sub-basin around Gufagaon. The Tamang, an indigenous group with its heartland in central Nepal, also settled across eastern Nepal, and cultivated the more marginal higher ground above Rai villages, such as the case study village of Kimalung, often alongside or just below those of the Sherpa.

There is scant documentary evidence to reconstruct the historical mode of production followed by non-Rai groups.[2] Oral histories suggested that they also carried out shifting cultivation until relatively recently, although pastoralism and transhumance have long been important aspects of their livelihoods, particularly amongst the Sherpa, with families moving up to *goths* (seasonal settlements) in the high ridges during the summer. Immigrant farmers were also known to have made use of *Kipat* land belonging to the local Rai on the payment of in-kind tribute (Gaenszle, 2000), although whether rights were given individually or to clans (or whether they had their own customary tenure) is not known.

[2]The economic and political organization of groups such as the Tamang has been well documented in their homeland in the central hills (Fricke, 1988).

The region was by no means isolated from markets, and several north–south trade routes between Tibet and India traversed Nepal, passing up the Arun valley. Migration of Newar traders to eastern Nepal from the Kathmandu valley had been taking place since before the Gorkhali conquest, and they settled in old towns such as Dingla, on the edge of the Chirkhuwa sub-basin, and Chainpur to the east (Lewis & Shakya, 1988).

The exact date of in-migration of non-Rai ethnic groups to the region is uncertain, and while collecting oral histories, none of the Tamang, Magar, or Sherpa respondents were able to estimate how many generations ago communities were established in the valley. Nevertheless, it is widely understood that migration of other ethnic groups increased dramatically following the annexation of the region into the Gorkhali kingdom of Nepal in the late 18th century (Gaenszle, 2000; Seddon, 2012). The political changes that followed were also instrumental in subordinating and breaking down indigenous economic formations, and the emergence of a more hierarchical mode of production.

4.2 | Annexation into the Gorkali kingdom

The *Majh Kirat* region fell to the Gorkhali army in 1772–1774 (see Figure 3). The eventual annexation of the eastern hills is attributed by Pradhan (1991) to the absence of a united opposition and to the fact that the locals were armed mainly with swords and bows rather than firearms. However, the eastward expansion was also aided by alliances formed between the Gorkhas and *Kirat* chiefs, with the latter hoping to receive some political autonomy and guaranteed rights to ancestral *Kipat* lands (Caplan, 1970). The period following the conquest, however, was marked by implementation of a much stronger administrative apparatus and far greater coercive control over the local population by the new rulers.

The first priority of the Gorkhali state was to extract surplus from the peasantry to fund its expansionist campaigns. As with many historical South Asian kingdoms, the state held ultimate rights to land, and the bureaucracy (sometimes with the aid of the military) appropriated surplus through taxation and labour rent (Regmi, 1976). Regmi (1976) has termed the mode of production in 18th- and 19th-century Nepal "state landlordism," although in reality it is very much akin to the mode of production present in India in the precolonial period, referred to by Sharma (1985) as a form of feudalism, but by some others as the "Asiatic" mode of production (see chapter on pre-capitalist economic formations in Grundrisse, Marx, 1993). A network of intermediaries with local control over resources collected surplus to channel to the overlords in the centre, the ultimate landowners. In this paper, this system will be referred to as "centralized" feudalism—to separate it from the more decentred relations grounded in landlord–tenant relations that emerged later. Regardless of how this mode of production is defined, the state in the Nepali hills was not able to entirely subjugate indigenous modes of production as it had in the Tarai (see Sugden, 2013). Instead, the process of subordination was gradual, with older economic formations persisting, yet becoming more hierarchical via their articulation with the centralized feudalism of the centre, in some cases seeing the development of a local landlord class with powers (and the authority) to appropriate surpluses in the name of the state.

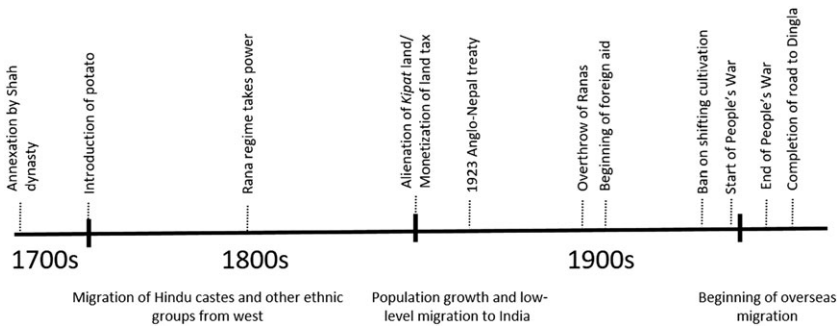

FIGURE 3 A timeline of key events in Arun valley from the 1700s to the 2000s

During the Rana regime from the mid-19th century onwards (see Figure 3), the tax collection apparatus was strengthened. An important form of surplus appropriation by the state was corvée labour, which became widespread in the middle hills during this period. While this was prevalent in the central hills around Kathmandu (Holmberg, March, & Tamang, 1999), government documents point to the presence of similar systems in the Dingla area in the mid-19th century, where labourers would be drafted for a number of state projects, including the construction of a fort, and even to support an elephant hunt (Regmi, 1987). This includes, in particular, a system known as *jhara*, which encompassed intermittent extractions of labour for specific state projects.

The primary source of surplus for the regime, however, was land tax (Regmi, 1976). For the system to function in *Kirat*-dominated communities, it was necessary to create a local functionary class. Across Nepal, the Gorkhali state preserved and intensified existing indigenous hierarchies through often propping up local chieftains both to collect tax in kind (Regmi, 1976) or to mobilize villagers for forced labour (Holmberg et al., 1999). This intensified following the capture of state power by the Rana clan in the mid-19th century. In the Arun valley, Rai chieftains were given the role of collecting a household tax called *serma* from resident cultivators of *Kipat* lands, as well as the right to collect their own labour rent. They were also given strengthened judicial power, and the right to collect fines and levies from the local population. This allowed them to accumulate some wealth (Gaenszle, 2000). Surplus would flow from the indigenous economic system to Kathmandu, with a portion being retained by local chiefs.

A private landholding class also began to emerge with the intensified migration of Nepali-speaking Hindu castes from the west (see Figure 3). To maximize tax revenue, it was necessary to increase the cultivable area, so the state actively encouraged this migration as it sought to bring new lands under cultivation. The dominant group was the upper-caste Brahmin and Chettri, but they were also usually accompanied by Dalit occupational castes, who would provide services to the upper castes as well as the Rai in return for grain, via the *jajamani* system of inter-caste exchange (Gaenszle, 2000). While the occupational castes were often landless, the numerically and economically dominant Brahmin and Chettri were mostly peasant cultivators farming permanent fields who would pay tax directly to the state—and were not directly subordinate to the local chieftains (Rai or others). In the Chirkhuwa sub-basin, large settlements were established in the middle- and lower-altitude zones, where more fertile and water-abundant land was available.

The Hindu castes brought with them cereal cultivation—in particular, paddy—and the associated technologies such as ploughing and terracing (Gaenszle, 2000). One crop that had considerable impact on agricultural production and quality of life was the potato, thought to have been introduced between the late 18th and early 19th centuries (Regmi, 1999). While still subject to surplus appropriation to the state, the incoming Hindu castes were part of a quite different mode of production from the indigenous population, grounded in the cultivation of individual fixed family plots. However, the differences between ethnic groups in terms of the mode(s) of production into which they were integrated would soon become less clear.

With the introduction of cereal crops and potatoes, the population continued to rise with in-migration, and with a contracting forest frontier, shifting cultivation became an increasingly less viable livelihood strategy, although the process was not uniform. It is likely that many local farmers continued to rely heavily on “slash-and-burn” cultivation well into the 19th century, and even in some places into the 20th century—as in the western hills; see the work of Hitchcock (1996) and Macfarlane (1976) for the Magars and Gurungs respectively. Indeed, shifting cultivation by the Sherpa and Tamang reportedly continued in the upper altitudes of the Chirkhuwa sub-basin until well into the 1980s. These farmers may have been able to escape the excesses of landlordism and taxation under the Gorkhali and Rana regime, echoing James Scott's concept of “escape agriculture” pursued in mainland South-East Asia, whereby shifting cultivation was a means of evading the extractive state apparatus (Scott, 2009). However, they may not have escaped forced labour obligations, which would have been an effective means of extracting surplus from non-sedentary cultivators.

For much of eastern Nepal, however, in-migration, sedentary agriculture, and the clearing of new land paved the way for the gradual erosion of the *Kipat* system, and the rising power of a new Hindu caste elite (for a discussion of this process among the Limbu, see Caplan, 1970). Individual rights to land became more important as the transformation

from shifting cultivation to cereal agriculture led to a different and more intensive association between a cultivator and a particular plot of land. The normal private land tenure that prevailed in other parts of Nepal was known as *raikar*, in which individuals could hold a private title although ultimate property rights rested with the state, and the land would be taxed. In 1883, it was specifically decreed that *Kipat* land could not be alienated, but 20 years later (in 1903) orders were issued to permit the alienation of *Kipat* jungle or waste lands to other settlers, on condition that it was converted into paddy fields (Regmi, 1965, p. 98). State policy dictated that land brought under permanent cultivation within the *Kipat* area was automatically converted into *raikar* tenure (Gaenszle, 2000).

A lot of the best valley land suitable for rice cultivation (*khet*), including land in the *Kipat* area, was appropriated by incomers with resources and technology to clear the jungle, after which it was converted to *raikar* tenure (Gaenszle, 2000). In the Chirkuwa sub-basin, this applied in particular in the lower-altitude zone around Badhare and Aaptari, and also in the middle-altitude village of Sanrang. Studies from the region show that *kipat* land was also lost due to mortgages, whereby a household would offer a plot to an incomer in return for cash, with it being appropriated if the loan was not repaid, and converted to *raikar* tenure (Gaenszle, 2000).[3] Out of the land still under the *Kipat* system, the government formally revoked this tenure for farmland in 1907 (Gaenszle, 2000). By 1952, only 4% of the land in the whole of the eastern hills remained under the *Kipat* system (van Driem 2001, p. 608). Rights for the remaining *Kipat* lands (mostly pastures and jungles) were revoked in the 1960s (Gaenszle, 2000). Elder respondents in Sanrang recalled that when government survey teams allocated former *Kipat* holdings to the existing farmers of the plots, influential individuals, often from upper castes, were able to deceive the teams into claiming certain lands as their own, or were able to use political influence to get titles in their name.

It was reported, though, that not all of the *Kipat* land went to "outsiders," and there were many transfers of land to local Rai, who became owner–cultivators. Nevertheless, since the 19th century, the government had attempted to control and dilute the authority of Rai chieftains by placing limits on their authority, and by providing titles and privileges to a broad set of families to limit the concentration of political power[4] (Gaenszle, 2000). For this reason, control over large tracts of land was rare and they never developed into the indigenous landlords that were present in the Tarai (see Sugden, 2013)—instead becoming independent peasant farmers as the *Kipat* system fell apart.

The greatest inequalities that emerged were between the incoming Hindu castes who acquired the best rice land and the largely adivasi/janajati indigenous cultivators (and the occupational castes). Some of the incomers also had tax collection roles for the regime, collecting revenue from Rai chiefs. Elders in the case study village of Sanrang reported how some households from Hindu castes were able to appropriate *raikar* land from farmers who defaulted on tax payments. In other cases, poorer farmers lost their plots due to unpaid debts. Large Brahmin landlords who lived in the Dingla and Sanrang area reportedly acquired large estates though these mechanisms. In the Chirkhuwa sub-basin, fertile valley-floor land in the lower-altitude zone was particularly sought after, and it is in this region where the greatest land inequalities emerged. The relations of production in the valley floor began to represent "semi-feudalism" as described during the Mode of Production debate, whereby land was concentrated amongst wealthier upper-caste landlords, who extracted surplus as rent from sharecroppers, to whom they also gave loans. The tenants were either from the Rai community (who had lost their land elsewhere in the valley), or the local Magar, Majhi, and occupational castes. The state institutionalization of the caste system by the Ranas in 1854 was likely to have facilitated the reproduction of these landlord–tenant relations on an extra-economic level, with even non-caste *adivasi* groups such as the Rai being granted a subordinate "position" in the hierarchy (Höfer, 1979).

With regard to the market integration of farmers, the state held a monopoly in the trade of various agricultural commodities, including indigo and cardamom, although these monopolies were operated through individual contractors; and efforts were made to promote the cultivation of new crops. There is evidence that cardamom was

[3]Other ways in which *Kipat* land was converted to *Raikar* in Caplan's (1970) study of the Limbus included the appropriation of land for public works, failure to supply documentary evidence of *Kipat* titles, or failure to identify a Limbu heir following the death of a landowner. Alienation was facilitated by a legal process biased against Limbus during disputes.

[4]The conferring of rights to collect tax from different types of land as *Kipat* tenure was dissolved, leading to a plethora of administrative roles in an increasingly complex land administration system (Gaenszle, 2000).

being produced, taxed, and traded in Nepal and even smuggled abroad over 200 years ago (Regmi, 1999) and that it had already become a major crop in some areas by the beginning of the 20th century. However, exports reportedly remained limited until the 1960s, when trade took off in Ilam to the east, and it reportedly arrived much later in the Arun basin (Fitzpatrick, 2011). With most agricultural exports occurring from the plains, it appears that agriculture remained subsistence in character, with some small-scale trade in vegetables and fruits at a network of *haatiyas* or weekly markets.

There is relatively little information regarding the history of *non-agricultural* production in the region, but we can assume that certain forms of pre-capitalist industry—notably basket- and mat-weaving from local wool and other materials—date back several centuries. The development of specific forms of manufacturing, including metal-working, leather-working, tailoring, and suchlike, will probably have been associated with the arrival of the Dalit occupational castes during the 18th and 19th centuries. Clay pots and other household artefacts were made by local craftsmen (*Kumal*) and metal containers (*gagri*) were made and repaired by local blacksmiths (*Kamis*), as were agricultural tools, including ploughshares, and household utensils. Tailors (*Damais*) made and repaired clothes, and leather workers (*Sarkis*) produced shoes and other items. Traditionally, local farmers would purchase such commodities from the occupational castes via the in-kind *jajamani* system. Nevertheless, commercially oriented cottage industries were present in the 19th century, and Bhojpur town (two day's walk from the Chirkhuwa valley) was well known for its metalwork, particularly *khukuris* (ceremonial knives) in the 19th century (Lewis & Shakya, 1988). These were, however, household enterprises and were by no means "capitalist."

4.3 | The mode of production in the 19th and early 20th centuries

From the above narratives, it appears that throughout the 19th and early 20th centuries, the Chirkhuwa sub-basin and the larger Arun valley were comprised of multiple localized modes of production under the influence of the centralized feudalism of the state, where surplus was appropriated by the bureaucracy and its intermediaries. Using sedentary or slash-and-burn methods, indigenous farmers initially worked the land either as independent owners or as cultivators of communal land, and were to a greater or lesser extent also pastoralists or livestock keepers. With the abolition of *Kipat* tenure and in-migration, smallholder peasant farming became widespread, although with increased land inequalities, *local-level* semi-feudalism also began to emerge, particularly in the middle- and lower-altitude zones. All farmers were subject to surplus appropriation by the state through taxation, while sharecroppers were burdened with double exploitation of tax *and* rent.

The character of the Nepalese state, however, began to change in the latter part of the 19th century, paving the way for a change in the localized economic formations on the ground. In this period, government revenue diversified. Trade from the Tarai grew considerably, whereby forest products were a lucrative source of revenue. The flow of primary products such as timber from Nepal to India, and imported manufactured goods from India to Nepal, accelerated after the 1923 Anglo-Nepal Treaty (see Figure 3) (Blaikie et al., 2001). Increased trade, and the fact that it was largely in Nepal's favour, led to a significant increase in revenues to the state, both from taxes on trade and from the payment for the exports. Mahat refers to an "unprecedented rise in the state revenue," but remarks that this was "accompanied by minimal state expenditure" (Mahat, 2005).

Although exports from the hills were limited to cardamom and ghee (Regmi, 1972), the increase in trade had an indirect impact on the trajectory of agrarian change. Land tax was monetized in the 1900s, and taxation rates remained static despite rising commodity prices, resulting in the tax losing its value (Regmi, 1976).[5] This was likely to have been of limited concern for the state, as it had new more lucrative sources of income from trade with the colonial economy to the south. What this also did was allow a greater share of the surplus to remain within the village

[5]This parallels a broader trend, echoed in India to the south, where land tax slipped from being 70% of government revenues in the late eighth century to less than a quarter in the 1920s. The establishment of fixed rates of land tax under the Permanent Settlement meant that it declined in value over the decades with the increase in crop prices, while it became increasingly politically difficult to reassess the rates.

economy (Regmi, 1976). While this will have worked to the advantage of small cultivators who had their own plots, it also worked in the interests of landlords in the lower valley. In this context, "feudal" surplus appropriation became increasingly localized to the village, rather than being associated with the bureaucracy and the state. Therefore, at the level of the larger Nepali social formation, the "centralized feudalism" or "state landlordism" that had dominated in the past began to disintegrate. While members of the ruling elite still had estates that generated feudal rents, particularly in the Tarai (Sugden, 2013), they also played an increasingly important role as a comprador class, becoming enriched by Nepal's increasingly unequal trade relationship, which entailed exports of primary produce in return for manufactured imports (Blaikie et al., 2001).

4.4 | Population pressure and out-migration

Increasing population density through the 19th century was both an effect of government policies and a result of increasing agricultural intensification. However, there is evidence that population pressure was already becoming a problem in some areas towards the end of the 19th century, particularly with the added surplus appropriation of rents and taxes, and outward migration to India became widespread. Migration occurred initially through the recruitment of men from Nepal's indigenous hill communities (notably Gurungs, Magars, and Tamangs from the western and central hills to the Gurkha regiments of the British army, following the 1814–1816 Anglo-Gorkha war), to serve British imperial expansion (Kansakar, 1973–1974). This began later in the eastern hills, alongside more permanent migration to north-east India, both for the purposes of settlement (for agriculture, labour, and for livestock keeping). Emigration to Sikkim seems to have started during the 19th century from eastern Nepal, and to have reached such proportions eventually that laws were passed by the Sikkim authorities to check the flow (Nakane, 1966). Caplan (1970) cites traveller accounts from the 1900s to note that pressure on land in Eastern Nepal was a prime driver of migration to Sikkim. From the 1850s onwards, as the British also began building roads and tea plantations in north-east India,[6] Darjeeling (only ten miles from the Nepalese border) and Assam both began to see a rising tide of Nepalese migrants, most of whom were from hill areas of eastern Nepal (O'Malley, 1907).

The government, focused on expanding cultivation and tax revenue, did not encourage migration, and there are past reports from other parts of Nepal, such as the Tarai (Regmi, 1982) and far-eastern hills (Seddon, 1987), of the state offering debt relief and cuts in taxes to encourage migrants to return. With the exception of migration for the military, it is likely that most migration was a process of resettlement, whereby households would permanently resettle in India, and it is questionable whether households maintained a link to their farms in Nepal—facilitating an articulation between the mode of production in the hills, and capitalist and other formations outside of Nepal.

4.5 | Early labour migration, changes in landownership, and the expansion of trade, 1950s–1980s

More significant changes in the agrarian mode of production occurred in the second half of the twentieth century, following the abolition of the Rana regime, a short spell of parliamentary democracy, and the return of the old Shah monarchy under the panchayat system. As the new regime sought legitimacy, this period saw the introduction of systematic economic planning, with a focus on infrastructural expansion. Furthermore, with the collapse of colonialism in India to the south, foreign governments increasingly sought to exert their influence through aid (see Figure 3) which, throughout the second half of the 20th century, went on to form more than 50% of the development budget (Shrestha, 2001).[7] The agendas of Western donors were diverse, and included the containment of communism as well

[6]Subba (1992, p. 45) estimates that there were 39 gardens in 1866, 56 in 1870, 113 in 1874, 153 in 1881 and 177 in 1891.

[7]Figures based on successive Economic Surveys and Reports by the Ministry of Finance and the Nepal Rastra Bank suggest that a total of NRs. 95 million was provided by foreign "aid" to Nepal in the period from 1951 to 1952 to 1955–1956, all of which was in the form of grants.

as a need to maintain political influence in the strategic zone between India and China. What is clear, though, is that the aid economy was one among several external factors that played a part in transforming the mode(s) of production on the ground.

The United States, together with the World Health Organization, collaborated with the government to undertake a malaria control programme in the *terai* plains in the late 1950s and into the early 1960s. This paved the way for a second wave of out-migration that took place in the latter half of the 20th century—particularly in the 1970s and 1980s—with some larger farmers selling up their land and moving to the lowlands (National Planning Commission, 2013). In the Chirkuwa sub-basin, this out-migration allowed some moderate redistribution of land, particularly with regard to less productive holdings. In many ways, this stemmed the expansion of semi-feudal landlordism in the hills to the levels that were present in longer-settled parts of the lowlands. This also allowed further in-migration of farmers from other parts of the eastern hills, such as the Hongu valley, to replace landlords who had left. Nevertheless, on prime paddy lands such as the lower-altitude zone of the Chirkhuwa sub-basin, landlordism persisted, with some migrants to the lowlands retaining their estates in the hills, and managing them from afar.

Agriculture was mostly sedentary and terraced by the latter part of the twentieth century, although shifting cultivation persisted around Kimaulung and Gufagaon until the 1980s, after which community forestry rules outlawed it. With limited roads, agriculture remained largely subsistence based aside from low-bulk cash crops such as cardamom. Farmers in the upper parts of the valley mostly produced and consumed traditional food such as *phapar* (buckwheat), potatoes, and maize, with local paddy, millet, and wheat dominating diets at lower altitudes. The eastern hills saw paddy output increasing steadily, from 73,135 metric tons in 1967–1968 to 77,335 metric tons in 1970–1971, while maize production rose from 123,500 to 130,400 metric tons. Millet and barley both rose slowly, from 30,100 to 31,400 metric tons, and from 2,825 to 3,176 metric tons respectively (Caplan, 1970). This was likely to have been due to improvements in terracing, irrigation, and also the continued expansion of the cultivable area, which was rapidly reaching its limit.

However, across Nepal, the increase in agricultural output was not keeping up with population growth (Blaikie et al., 2001; Caplan, 1970). While army recruitment continued, this period also saw the emergence of articulations with capitalism through wage labour. Urban trading centres developed across the hills in the second half of the twentieth century with the expansion of imports and improvements in infrastructure such as roads and telecommunications—changes that were again facilitated by foreign aid. Caplan (1970), with references to Ilam bazaar in the far-eastern hills, noted an unprecedented growth in population and trade, spurring a building boom in the 1960s that required labour for construction and portering. There was an expanding network of market towns throughout the Arun valley, such as Khadbari and Tumlingtar, in this period, and portering of goods for shopkeepers between these towns and the lowlands was an increasingly important source of income for local people in the Chirkhuwa sub-basin. There were also opportunities for petty trade, such as the selling of locally made handicrafts and liquor.

However, aside from portering and casual construction labour, non-agricultural employment was still unable to absorb the surplus labour pool of the hills. A significant change at a national level was the growing overall trade deficit with India, and this had long-term implications for the nature of articulations between capitalism and the rural economy. While the 1923 treaty had lifted many barriers on trade between Nepal and India, Nepal retained a trade surplus until the Second World War. However, in the second half of the twentieth century, as India's industrial capacity grew, Nepal functioned as a captive market for its produce. A second highly unequal trade treaty was signed in 1950 and imports of manufactured goods to Nepal rose significantly, causing the deficit (Blaikie et al., 2001). In Nepal itself, there was limited interest amongst the ruling elite in promoting industrialization, given the dominance of a comprador class, who had been enriched by their control over imports and the rents they offered. They also had influence over the bureaucracy, which had benefited as a result of lucrative revenue from import tax. The few industries that emerged in the Tarai belt were mostly low value, with heavy investment of Indian capital, and could only absorb a small fraction of the rural poor (Bhattarai, 2003; Blaikie et al., 2001). Meanwhile, cottage industry and artisanal manufacturing (by occupational castes and others) in the hills were gradually undermined and eroded by the influx of Indian manufactured goods, a process well documented in western Nepal (Blaikie et al., 2001).

In the context of a stagnant industrial base, the breakdown of what cottage and artisanal industry there was, and limited development of the productive forces in agriculture, labour migration began to emerge as a significant secondary source of cash. There was likely to have been some seasonal migration to India between the 1950s and 1970s, and labour migration to Sikkim was recorded further east in Taplejung in the 1960s (Fitzpatrick, 2011). However, migration to further afield, particularly to the Gulf states, began to take place in the late 1980s and 1990s, setting the scene for things to come. By the mid-1990s, nearly a quarter (23.7%) of households in the eastern hills were receiving remittances (Central Bureau of Statistics, 1996).

5 | MONETIZATION, MIGRATION, AND ARTICULATION OF MODES OF PRODUCTION, 1990s–2016

5.1 | The agrarian structure in the upper-altitude zone

Over the past two decades, a new wave of agrarian and economic change has swept the region, and now is a pertinent time to focus on the Chirkhuwa sub-basin itself, and to understand the transformation in the mode(s) of production at a local level and their growing articulations with capitalism. What is immediately apparent is that the local-level mode of production and its trajectory of change has been intricately shaped by the forces of production, most notably the localized agro-ecology, and the unique way in which it mediates the external influence of capitalist markets and climatic stress.

It is thus a pertinent time to explore these trajectories in each agro-ecological zone, although before doing this, the paper will analyse the contemporary agrarian structure and mode of production in each respective domain. As noted above, the upper-altitude domain is the primary home to the Sherpa and Tamang communities. The relations of production today are based largely upon subsistence farming (i.e. non-commodity production) on relatively small individually owned plots, with the raising of livestock on public or privately owned jungle land. Although our investigations showed that 92% of farmers in this zone have their own land (see Figure 4), it is mostly rain-fed *bari* land, with a small amount of *pakho* waste/jungle land owned (see Figure 5). Only four households own the more productive *khet* lands in the valley below, representing just 3% of the net area cultivated by farmers in these communities (see Figure 5).

Inequality within the two communities is only moderate. Households owning between 0.5 hectares and 1 hectare of *bari* land represent the largest group, at 38% (see Table 2). There is no real labouring class dependent upon employment by others in the village for their subsistence. Only four farmers are engaged in sharecropping, yet there is no

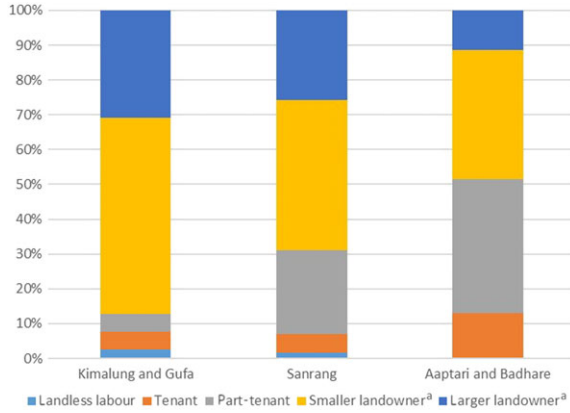

FIGURE 4 The percentage of households falling under different landownership groups, by agro-ecological zone. [a]A large landowner owns more than 1 hectare of *bari* land or more than 0.5 hectares of *khet* land.
Source: Survey by research team

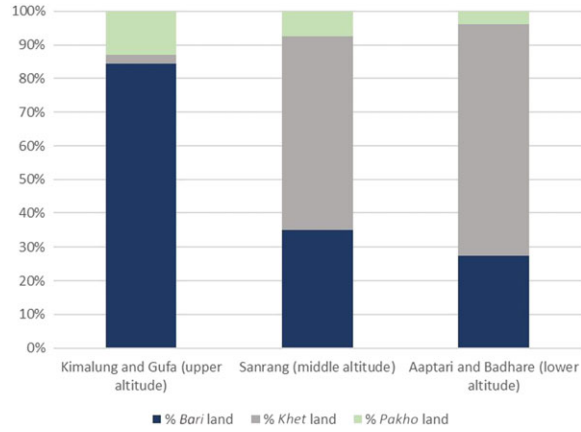

FIGURE 5 The percentage of cultivated land in each agro-ecological zone, by land type.
Source: Survey by research team

TABLE 2 The distribution of unirrigated *bari* land by household and agro-ecological zone

	Kimalung and Gufa		Sanrang		Aaptari and Badhare	
Bari land owned	% households	% area owned	% households	% area owned	% households	% area owned
No *bari*	12.82	0.00	15.52	0.00	20.97	0.00
< 0.2 ha	2.56	0.49	29.31	9.04	46.77	24.38
0.2–0.5 ha	12.82	5.39	34.48	38.22	17.74	31.55
0.5–1.0 ha	38.46	35.13	17.24	36.74	14.52	44.07
> 1 ha	33.33	58.99	3.45	16.00	0.00	0.00

Source: Survey by research team.

notable "large farmer" class and little evidence to suggest that these production relations are "semi-feudal."[8] Only three households are landless, yet they gain most of their income outside agriculture. Only one household reported any on-farm wage labour income in the last year, and most households cultivate their own land using predominantly family labour. Nevertheless, there is a distinctive system of labour relations (the *parma* system of labour exchange), in which farmers exchange labour without any transfer of cash during busy times in the agricultural cycle. Although this system is present across upland Nepal (it is described for the western hills in Blaikie et al., 2001), it *may* be the relic of older modes of production with more communal characteristics.

With regard to the productive forces, agriculture is now entirely sedentary since shifting cultivation first declined and was then outlawed, yet there is virtually no mechanization in terms of motorized land preparation, harvesting, or irrigation. Farming is focused on two overlapping crops where possible, depending on pre-monsoon and monsoon rains. These include maize from February to October and potatoes from November until July. Given the lack of irrigation and the cooler climate, few farmers have food security from the land for the whole year.

In spite of similar relations of production in the Sherpa-dominated village of Gufagaon and the Tamang settlement of Kimalung, the former is slightly more prosperous. The average productive landholding of the Sherpa community is 1.01 hectares, while for the Tamang it is 0.68 hectares. Livestock raising is more important in Gufagaon than in

[8]It is common for small farmers to rent out excess holdings to other marginal farmers if they were unable to farm them with available labour, and vice versa. Two tenants already own land, and some are renting land in *and* out at the same time, while 43% of the land "rented out" is by small farmers owning less than 1 hectare of *bari* land.

TABLE 3 The distribution of irrigated *khet* land by household agro-ecological zone

	Kimalung and Gufa		Sanrang		Aaptari and Badhare	
Khet land owned	% households	% area owned	% households	% area owned	% households	% area owned
No *khet*	89.74	0.00	36.21	0.00	41.94	0.00
< 0.2 ha	0.00	0.00	17.24	5.24	14.52	6.67
0.2–0.5 ha	2.56	19.95	15.52	12.44	22.58	31.83
0.5–1.0 ha	7.69	79.81	17.24	26.96	17.74	45.50
> 1 ha	0.00	0.00	13.79	55.37	3.23	16.00

Source: Survey by research team.

Kimalung, and seasonal transhumance has been an important aspect of Sherpa livelihoods for generations. This has given them an important secondary source of income, as livestock products fetch a good price in urban markets. Although the agricultural resource base is poor, the Sherpas have greater access to natural resources in the proximity of the settlement, including forests and the extensive pasturelands on the Mayum Danda ridge above the community.[9] A number of households move up to seasonal *goths* with herds of *chauri* (a yak–cow crossbreed) in the spring.

The Tamang community as a whole has a long history of subordination by the Nepali state (Holmberg et al., 1999). Population pressure is higher and access to natural resources is more limited in the area around Kimalung, and herds of livestock are consequently smaller. There has been a lot of internal migration within this part of the valley, with better-off groups leaving the land to their less fortunate neighbours—indeed, many of the Tamang in Kimalung bought their land over the past few decades from Sherpa and Rai households who had found better land elsewhere or had migrated to the lowlands or Kathmandu.

5.2 | The agrarian structure in the middle-altitude zone

In the more fertile and water-abundant middle-altitude zone, 57% of the cultivated area is *khet*, the irrigated land that is used for paddy (see Figure 5). The Rai are the predominant group here, making up 42% of the sample, although there is also a population of Tamang, as well as Nepali-speaking Brahmins/Chettris and Dalit occupational castes. As with Kimalung, the relations of production are primarily based upon individual ownership of land and cultivation using family labour or the labour of others via the *parma* system.

As with the upper valley, the inequality in *bari* land distribution is only moderate (see Table 3), with close to two thirds of households owning between 0.2 and 0.5 hectares. With regard to the irrigated *khet* lands, however, there is greater disparity in the distribution of holdings, which is unsurprising given that this land was long sought after by more powerful socio-economic groups. Thirty-six per cent of households own no *khet* land, with just over half owning between 0.2 hectares and 1 hectare. However, a minority of 14% own 55% of the land. This includes a small class of better-off Rai households, as well as Brahmins and Chettris. The latter form the most powerful landholders, given the history of unequal caste relations between the ethnic groups following the abolition of the *Kipat* system and their links to state power. They own 0.78 hectares of *khet* on average, while the average is just 0.44 hectares for the numerically dominant Rai. A number of the Brahmin households also hold large holdings on the valley floor around the case study village of Bhadare, although most of these households are now absentee, living in the Tarai or Kathmandu, and thus data on these holdings are not captured in the sample.

Twenty-four per cent of the sample are part-tenants who sharecrop some of their land and 5% are pure tenants. Unlike Kimalung, these relations are imbued with unequal power relations. Although it may be premature to term

[9]Livestock and dairy income amongst the Sherpa community is 56% higher than amongst the Tamang.

them "semi-feudal," 90% of the land being sharecropped out belongs to the larger landowners.[10] Most of the Dalit occupational castes are tenants or part-tenants, with sharecropping replacing the *jajamani* system as the predominant way in which surplus is extracted.

In spite of the presence of this small sharecropping class, the forces of production allow much higher productivity and food security in this zone. There is greater availability of water for irrigation, and cropping intensity is higher, with the land allowing a much wider diversity of crops at different times of the year. Access to other resources such as education, healthcare, and social networks is also higher, with the close proximity of the village to Dingla bazaar.

5.3 | The agrarian structure in the lower-altitude zone

By far the most productive land is in the lower-altitude zone on the valley floor. Two thirds of the cultivated area is *khet* land. It is this zone, however, where the relations of production are closer to the semi-feudalism of the plains. The Majhi and Magar were the original owners of land in the village. The landlords, however, are mostly from the upper-caste Brahmin and Chettri community from the Sanrang and Dingla area, who as noted above, had the capital and resources to clear highly desirable and productive valley land that was uncultivated. Many also reportedly played important functionary roles in the feudal Rana tax administration, allowing them to appropriate the land from the existing farmers.

A substantial 52% of the sample are tenant or part-tenants, who work as sharecroppers, and 43% of the land is rented. Sixty per cent of tenants and part-tenants are from the Magar community; a further 42% are from the Dalit occupational castes. In spite of the fertile land, sharecropping means that paddy produced for tenants is often sufficient for just 4–6 months of the year—half of the crop must be given to landlords. Out of those who actually own *and* cultivate land in the village, the inequality in land distribution is only moderate, with the majority holding between 0.2 hectares and 1 hectare, although there are a few local large farmers (see Table 2). Owner–cultivators and tenants farm their land using family labour, although *parma* is practised by tenants and owner–cultivators alike.

The agro-ecological resource base is strong, which is also a reason why these fields have been sought after by landlords. Irrigation is channelled from local streams, although a canal built 20 years ago takes water from the Andheri River, converting several otherwise dry fields to *khet* land. The fields are more gently terraced when compared to Sanrang, and are suitable for a range of crops including paddy, maize, and pulses, and a range of fruits. Two crops of paddy are possible in well-irrigated areas.

6 | RECENT TRAJECTORIES OF CHANGE

6.1 | Climate stress

A new wave of agrarian change has swept the hills since the 1990s. While the three agro-ecological zones represent a unique combination of modes of production, it is clear that the local biophysical context plays a key role in shaping the trajectory of change. Climate variability is a key concern of farmers in all three agro-ecological zones, paralleling the findings of another study from the region (Sugden et al., 2014) although the levels of stress appeared to be particularly acute in the upper agro-ecological zone in Kimalung and Gufagaon, where most agriculture is rain-fed and the scope for crop diversification is more limited.

The data on climate variability is open to interpretation, yet the phenomenon most commonly recognized is increased unpredictability, particularly of monsoons[11] (Practical Action, 2009). Farmers perceive that monsoons are

[10]This refers to those with more than 0.5 hectares of *khet* land or more than 1 hectare of *bari* land.

[11]For much of the larger Koshi basin (which includes the Arun), there has actually been an overall increase in pre-monsoon and monsoon precipitation between 1976 and 2005 by up to 10 mm, but in regions such as the lower Arun there has been a decrease in the post-monsoon rainfall, which is critical for winter crops. The cumulative post-monsoon increase has been up to 9 mm a year in the upper Arun valley, although there has been a decline of between 1 and 7 mm a year, depending on the locality (Practical Action, 2009).

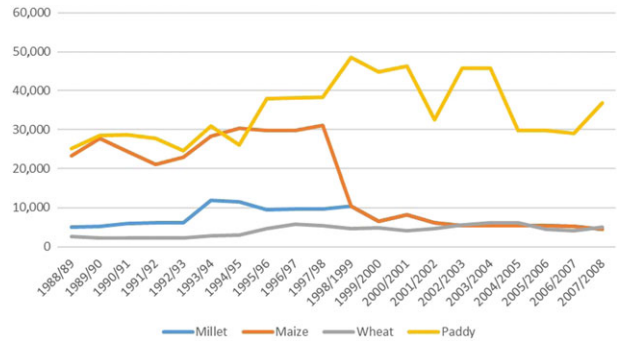

FIGURE 6 Annual yields (metric tons) of key staples in the Bhojpur district, 1988/9–2008/9.
Source: Central Bureau of Statistics, 2009

coming later, while severe untimely rains are causing crop damage. In Kimalung, farmers reported that in 5–6 years potato yields had declined from 30 kilograms per *kanlo* (130 m^2) to just 8–10 kilograms. Respondents blamed severe late rainfall, with downpours during August and September for 2 months in 2015, and 1.5 months in 2014. Because of the excessive rain, the villagers were also unable to make natural fertilizer from the cow dung. Perhaps most critical were the pest infestations, which farmers blamed on higher winter temperatures. In the past, it was reported that snow and winter frost would kill off pests.

In Sanrang and Aaptari/Badhare, increased climate variability was also a concern. They reported that the monsoon, which used to begin in June and fill the streams necessary for irrigation, was increasingly starting in late July. This was delaying the paddy plantation, particularly in Sanrang, where the canal infrastructure was more limited, although the introduction of new species of paddy and expansion of canals has partially offset declines in yields.[12] Figure 6 shows a long-term increase in rice yields in Bhojpur district from the mid-1990s onwards. Here also, untimely heavy rain over the past 2 years is reported to be increasing, although on *khet* land this has been good for paddy cultivation.

6.2 | Non-climatic livelihood stress: Monetization

An inevitable result of climate stress is an increased demand for cash to purchase food and compensate the shortfalls from the land. However, this is by no means the only process that is increasing the cost of living, and there is a much broader process of monetization under way as capitalist markets and associated cultural flows further expand their reach into this remote region. This has been a gradual process across Nepal, associated first with the growth of foreign employment and subsequently with the breakdown of cottage industry, which rendered farmers more dependent upon the market for consumables (Blaikie et al., 2001). This dependency has grown substantially with the expansion of roads, which are now within 2 hours of all the sampled villages.

Road building has again been connected with foreign aid inflows to the region. The United Kingdom (UK) government funded a large road up to Hile, on the edge of the Arun valley, in the 1980s, and this became a major transit point for porters carrying goods up the Arun valley from India and the plains to the Chirkhuwa and other sub-basins. However, since the 2000s, two additional roads have been built to the valley. The first comes up the Arun River from Hile to Tumlingtar with a branch up to Dingla, and the second, which was again funded by the UK's Department for International Development travels to Bhojpur bazaar (see Figures 1 and 3).

While these dry-season-only roads are only suitable for jeeps and tractors, they have undermined the portering economy, and an important source of income for farmers in the Arun valley. A second implication of road development is that the cost of living has increased. The latter process is complex, as on the one hand the cost of basic commodities

[12]Yields of traditional varieties have halved from 120 kilograms per *ropani* to 60 kilograms per *ropani* in recent years, although new species could produce at least 80 kilograms per *ropani*.

such as oil and salt has declined significantly. On the other hand, economic demand has risen and the *quantities* of commodities being purchased from the market have increased significantly. This can be linked not just to the greater availability of goods, but to two processes of internal change brought about by contact with external markets—a culture of consumerism and changing food habits.

A culture of consumerism has swept the region since road and communication networks have expanded and migration has increased. There is now high demand for commodities such as liquor, soft drinks, sweets, noodles, biscuits, and other manufactured foodstuffs. The expansion of telecommunications networks and lifestyle changes associated with access to globalized media has not just provided information about what goods are available but also increased costs, as local people purchase phones, recharge cards, and mobile internet packages, as well as televisions, and solar panels to power them. Modern consumption practices also signify social status, a process widely documented in the literature on Nepal (Liechty, 2003; Rankin, 2004). In interviews in Kimalung, several households noted how in order to maintain their status they are expected to serve factory-made liquor and beverages while relatives visit rather than the *raksi* (local alcohol) that is traditionally produced by local women. Aspirations of modern lifestyles acquired through the mass media, combined with a fragile agricultural resource base, have also encouraged increased expenditure on education. With a weak public education sector, better-off farmers increasingly aspire to send their children to private schools in emerging towns such as Dingla and Tumlingtar, incurring significant costs for the school fees and room rental.

A highly significant and often overlooked driver of rising living costs and monetization, however, is changing food habits and the shift away from other grains towards rice, a change widespread across the region (National Planning Commission, 2013). The outcomes, however, are intricately connected to the local agro-ecological context, and the rice culture has emerged at different periods in different altitudinal zones. Rice consumption has long been a sign of social status in Nepal—with the prestige of a household judged by how much rice it consumes. Gaenszle (2000) notes how it has long been associated with the Hindu values of the Nepali-speaking castes, who have brought paddy cultivation to the Arun valley from the west over the past two centuries. While rice was of ritual importance to the incomers, crops such as millet had been of greater ritual significance to the indigenous Rai community. Nevertheless, with the adoption of paddy cultivation by the Rai in the lower altitudes sometime in the 18th and 19th centuries, rice became the primary staple food in the middle- and lower-altitude zones of the Chirkhuwa valley, although production has recently shifted towards improved non-indigenous varieties.

However, one of the most significant changes is the move towards rice consumption in the non-rice growing upper-altitude zone - a change which has been realised over the last two decades or so. For many years, in the Tamang and Sherpa villages of Kimalung and Gufagaon, the traditional foodstuffs have been *phapar* (buckwheat), maize, and potatoes. Now, however, respondents noted how there was cultural pressure to consume rice to maintain social status, particularly now that it is easily available in the local market due to road access. Even when children visit the *besi* (lower valley) for their schooling, they consume rice and like the taste, and then demand it when they return. It was reported that with traditional staples such as maize, it took too long to prepare the grains. Regardless of the underlying causes, rice consumption has become a habit. Since buckwheat cultivation stopped, the local seeds are no longer available, so local farmers are unable to restart.

Although farmers exchange potatoes[13] for rice with traders, in cash or kind, this does not provide them with their entire grain needs. These changing food habits in the upper valley have led to considerable increases in living costs, as the new grain staple needs to be purchased. The cost of rice itself has risen. Twenty years ago, only local rice would be produced. However, with the shift of land to other crops (see below) in parts of the rice-growing zone and rising demand for paddy, there is no longer a sufficient supply, and rice has to be brought in from the plains. Local rice that was bought 10–15 years ago would cost just NRs. 10 per kilo, while today imported rice is NRs. 80 per kilo. Local rice that does make it on to the market and is sought for its better taste is now almost NRs. 90–100 per kilo.

[13]Maize production has decreased (see Figure 6) and the cultivation of potatoes has increased.

These changes, however, have not affected the lower-valley villages such as Sanrang, Aaptari, and Badhare. Although maize cultivation and consumption have declined, villagers continue to cultivate and consume their own rice, even though it is often insufficient for the whole year.

6.3 | The People's war

Another change since the 1990s was the People's War, led by the Communist Party of Nepal (Maoist), which was launched in 1996 and ended with the Comprehensive Peace Accord in 2006 (see Figure 3). Bhojpur district, along with much of the region, was heavily affected by the conflict, and the Maoists developed some parallel government structures on the ground. The Maoists sought to overthrow the state and its figurehead, the king, while challenging the power of the "comprador" elite in the centre and the landed classes at the local level. Radical land reform was an important component of the Maoists' agenda. At a grassroots level, the Maoists did succeed in instituting some short-term changes in the relations of production. While they did not establish communal farms as they had in their base areas in mid-western Nepal, there was pressure on landlords across the region, and the Maoists mobilized the tenants in Bhadare to reduce their rent payments to just one third of the produce rather than the usual 50%.

However, at the end of the war, the parallel government structures were dismantled and, most importantly, the agenda of the party changed, even following their victory in the 2008 elections. Adhikari (2012) notes that during the run-up to the elections and their spell in government as a mainstream party, the Maoists' radical ideology was diluted as it sought to consolidate its power, particularly as the party became drawn into the system of patronage that characterizes mainstream politics in Nepal. Since the 1990s, competing political factions have played a key role in mediating the distribution of resources and state support through their patronage networks (Pfaff-Czarnecka, 2008). Adhikari (2012) notes how the Maoists formed relationships with powerful groups whose interests were sometimes at odds with their revolutionary agenda. While they did make attempts at state restructuring, the direct threat that it posed to the established political order led to the eventual collapse of the Maoist government in 2009 (Adhikari, 2012). Lawoti (2014) notes how, during their spell in government, issues such as land reform were largely forgotten, and with the fragmentation of the party, they performed poorly in the 2013 elections.

On the ground in the Chirkhuwa sub-basin, landlords returned to the village to restore the original 50% rent for tenants very soon after the conflict ended, with the demobilization of the Maoist cadre. One by-product of the conflict, however, was that it contributed to the rapid expansion of the migration economy. The conflict itself drove many young people from the village. However, as the political unrest directly challenged the power of the state, the recognition of migration as a safety valve for households suffering food and cash insecurity became increasingly desirable for the government. The rapid growth of labour migration to the Gulf (and elsewhere) that started the late 1990s was actively encouraged by the state, and gave rise to a new phenomenon, the remittance economy (Adhikari, Seddon, & Gurung, 2001; Graner & Gurung, 2003).

6.4 | New migration trends

One of the most critical changes under way at present is the exponential rise in out-migration. With the slow growth in agriculture as well as in local- or national-level manufacturing, migrant labour is now a key component of rural livelihoods across rural Nepal (Adhikari & Hobley, 2011; Sugden et al., 2014; Sunam, 2015). Although there is a belt of agro-processing industries in Morang-Sunsari in the Tarai, production has been dropping in recent years, due to power shortages and the failure to compete with goods imported from India. While some migrants work in Tarai towns, the small number of industries there cannot even support the local surplus labour pool on the plains (Sugden, 2013), let alone those from the hills. The 2010/11 Living Standards Measurement Survey showed that the percentage of households receiving remittances in the eastern hills had risen to 42.5% (Central Bureau of Statistics, 2011), nearly twice what it was in 1995/6, and this upward trajectory appears to be continuing.

Interviews revealed that the rise in migration in the Chirkhuwa sub-basin is fundamentally connected to the rising demand for cash. The expansion of markets represents the first stage in a growing articulation between the pre-capitalist modes of production in the hills and the external capitalist economy, which drives farmers into the migrant labour force. This process has been long documented by Marxist anthropologists. The literature on the tribal or "lineage" modes of production in Africa presents a notable example (Dupré & Rey, 1979: Meillassoux, 1980). Meillassoux (1981) and Rey (cf. Resch, 1992) for example, noted how colonialism had the capacity to "break" the autonomy of the older economic formation by creating a demand for commodities, establishing infrastructure, and promoting commercial production. This encouraged wage labour and set the conditions for subjugation to capitalism.

Figure 7 shows that migration is highest in Kimalung and Gufagaon, where ecological and climatic stress is highest, with 77% of households reporting at least one migrant family member. This figure stands at 60% for Sanrang and 55% for Aaptari and Badhare. The higher migration in Kimalung is unsurprising given the more limited agricultural opportunities and the need to earn money to purchase rice.

Remittances represent an important source of cash, although there is considerable variation from household to household, and only some households were able to "accumulate" wealth as a result of migration. For many, the net earnings are often considerably less than they had anticipated. With gross earnings overseas often as low as NRs. 15,000–20,000 (US$140–180) per month (see Figure 8), respondents noted how this was only sufficient to meet basic expenses, and there were few opportunities for accumulation. This is reflected in Figure 9, which denotes the average percentage allocation of remittances in the past year. Although these are based upon respondent estimates, it does appear that the majority of remittance cash earned goes towards day-to-day consumption items, with just a fraction being saved. There were also multiple reports in interviews of migrants being underpaid or cheated by employers overseas.

Farming is still a core component of most migrant families' livelihoods as the remittances, while covering additional cash needs, are insufficient to meet food needs. Although some studies from Nepal have noted abandonment of land by migrants (Adhikari & Hobley, 2011; Sunam, 2015), the data from this area suggest that the family at home still very much depends on the soil. Only 1.2% of the sample had left some land fallow *after* the migration of a family member, and while 7.5% had rented some land out (usually due to a shortage of labour), a similar proportion (6.2%) of households had actually rented *in* land after migration to support the family members who stayed behind.

There is a class dimension to remittance inflows. The better-off farmers generally have higher levels of education and greater access to social networks, and more cash to pay manpower agencies, enabling them to secure much better paid employment overseas, as shown elsewhere (Sugden, Saikia, et al., 2016; Sunam, 2015). Their more secure economic status may also allow them to be more selective when deciding when and how to migrate. Across all three zones, large farmers (with more than 1 hectare of rain-fed *bari* land or 0.5 hectares of paddy *khet* land) have substantially higher remittances on average, when compared to small farmers and tenants (see Figure 8). Such

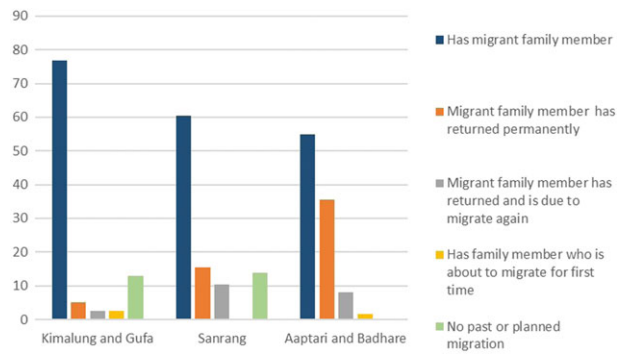

FIGURE 7 The percentage of households by migration status and agro-ecological zone.
Source: Survey by research team

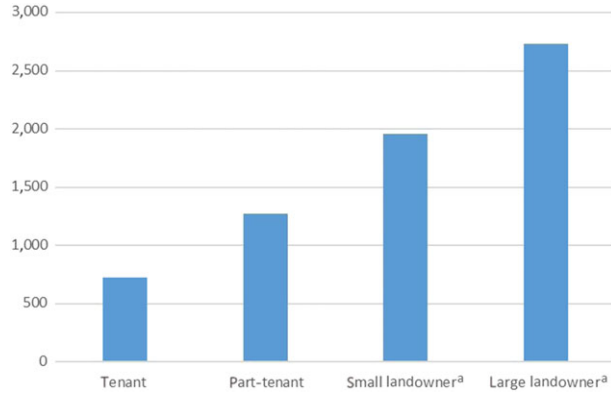

FIGURE 8 The average annual remittance by landownership group for households with a current migrant family member in each agro-ecological zone (US$). [a]A large landowner owns more than 1 hectare of *bari* land or more than 0.5 hectares of *khet* land.
Source: Survey by research team

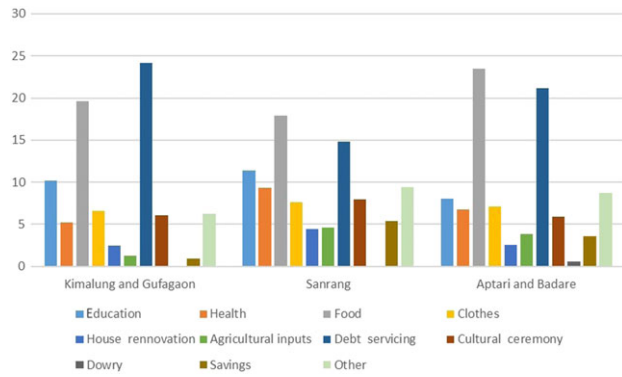

FIGURE 9 The average percentage allocation of remittances by households in each agro-ecological zone.
Source: Survey by research team

households were more likely to save some cash, and use remittances for high-value investments such as house improvements, rather than just the day-to-day costs.

The frustration felt by farmers at the low remittance inflows has been further aggravated by a significant rise in indebtedness, which has been shown to often cancel out many of the financial advantages of remittances (Sunam, 2015). Farmers usually take considerable loans of up to US$1,500 to fund the migration process, most of which is paid to manpower agencies who act as brokers. Interestingly, it was reported that better-off migrants often resort to money lending, giving loans to other prospective migrants, and charging high interest in the process. This represents a complex chain of exploitation, whereby migrants who are themselves subject to surplus appropriation overseas in turn appropriate surplus in interest from other migrants. Around half of loans (particularly the larger ones), however, are taken with collateral from private lenders in bazaars such as Dingla. The average loan amount taken for overseas migration is higher in Kimalung and Aaptari/Bhadare, where the economic stress is highest (see Table 4).

6.5 | Migration, the articulation of modes of production, and surplus appropriation

Migrant labour from the hills arguably generates significant profits for capitalism. Marx (2008 [1933], pp. 26–27) noted how wages in capitalism normally cover both the cost of the maintenance of the labourer and the cost of

TABLE 4 Loans taken to facilitate overseas migration by agro-ecological zone

Village	Average loan (US$)	Source of loan			
		Private lender	Family member	Other farmers	No information
Kimalung and Gufa	1,466	46	50	0	3.6
Sanrang	1,093	48	50	2	0
Aaptari and Badhare	1,332	53	17	20	7

Source: Survey by research team.

reproducing the labour force, or as he notes: "In the same manner, the cost of production of simple labour-power must include the cost of propagation, by means of which the race of workers is enabled to multiply itself, and to replace worn-out workers with new ones." However, in the context of migrant labour, where the initial costs of production of labour-power are borne in the "country of origin," the wages paid in the country in which the labourer is employed only cover the "immediate" costs of the labourer alone (which are often lower than indigenous labour in that country), thus offering significant profits for capital. This phenomenon has been theorized in the past by Wolpe (1982) with regard to South Africa internal migration, although perhaps in greater detail by Meillassoux (1981, pp. 107–137) with reference to migration within and outside of West Africa.

According to Meillassoux (1981), in Europe during industrialization, the destruction of the peasantry and weakening of ties with the countryside led to the development of a stable proletariat, whose labour power was produced, maintained, and reproduced within the capitalist mode of production itself. In the case of *peripheral* economies, however, the domestic agricultural economy plays a critical role in reproducing labour power. A migrant or temporary labourer from a peasant household is paid a wage that covers only his *minimum* and immediate subsistence needs. The costs of labour reproduction are borne by the pre-capitalist mode of production in their place of origin. This includes the cost of subsistence goods produced on the land and consumed by the young, as well as by the worker during periods spent at home or when they are unwell. It also includes the longer-term costs of both bringing up the labourer, and their "retirement," including networks of social support.

These are costs that in advanced capitalism may be borne by higher wages or the welfare state (Sehgal, 2005). In peripheral countries, though, they are provided by the pre-capitalist sector as a "rent" for capitalism, which in addition to conventional surplus value produced by exploiting their labour power, generates exceptional profits (Meillassoux, 1981). Under neoliberal globalization, this dependence of "core" (labour-receiving) countries upon domestic and community economic and cultural systems in "peripheral" (labour-sending) countries to reproduce labour power is becoming increasingly important (Sehgal, 2005). This concept has been applied to a South Asian context by Singh (2007), with reference to *adivasi* social formations in Madhya Pradesh supplying labour to capitalism.

In the case of labour migrants from the Chirkhuwa sub-basin, the general principles remain the same, although there is an added layer of complexity given that surplus is also being appropriated by a local exploiting class. For tenants in the lower part of the valley, farming under semi-feudal conditions, this is characterized by the rent burden. However, even in Kimalung and Gufagaon, and to some extent in Sanrang, where the relations of production are characterized by small-scale owner cultivation, exploitation persists due through the money lending and middleman economy—although whether this can be termed "pre-capitalist" in any sense remains debatable.

Against this backdrop, it can be theorized that the majority of farmers are unable to subsist due to ecological stress, marginal holdings, and surplus appropriation through rent and debt. They therefore migrate to receive wages that only cover their *immediate* subsistence needs, plus an excess to send home as remittances to meet the rising household cash demands. For most households, though, this excess by no means covers the entire cost of labour reproduction, as households simply cannot survive on remittances alone. Therefore, agriculture in the village, even under highly unfavourable conditions, effectively subsidizes migrant labour and the two modes of production are "articulated" (Wolpe, 1979) and supplement each other.

Another complexity relates to the variation in remittance flows. Richer farmers may be able to meet a greater share of their subsistence needs on the land, and often receive higher wages overseas, allowing a greater excess to invest in improving their standard of living. Nevertheless, it is notable that even these families still depend on both agriculture as well as remittances, so at least some of the labour reproduction cost is met by the agricultural sector.

An outcome of this articulation is that the aggregate labour burden of the household is increasing—this is akin to Marx's "extension of the working day," although the labour is spread across the capitalist and pre-capitalist sectors. As the vast majority of foreign migrants are men, the primary agricultural work burden on the farm "at home" falls to women: this was by far one of the biggest issues raised by women respondents when asked about the impact of migration on their well-being, and it has been noted elsewhere in the literature on eastern Nepal (Adhikari & Hobley, 2011). Prior to migration, it was recalled by female respondents how men would be engaged in a wide range of activities on and off the farm. These included land preparation, making animal shelters, cutting bamboo, and transporting millet or maize to the mill. Following the departure of males, these tasks fall into the female domain or are left aside. In the past, migrants also supported women, to some extent at least, with reproductive activities such as child rearing. Their absence adds further hardship to women, particularly at times of illness or family emergency. The overall work burden appeared particularly acute in Gufagaon and Kimalung, which not only sees the highest out-migration but is also further from the market centre, adding to the time spent travelling to access basic services or purchase and sell commodities. Furthermore, as it faces greater water scarcity, women often have to walk half an hour to collect water in the dry season, adding to their daily responsibilities.

6.6 | New opportunities for accumulation in agriculture

While there is clearly a drain of surplus from the hills through migration (as surplus value) and rent appropriated by absentee landlords, it is critical to ask whether there are new local-level opportunities for accumulation inside the agricultural economy that could pave the way for proto-capitalist development *within* communities. While expanding transport networks and markets increase households' dependence on purchased consumables, they also allow households to sell their produce. Once again though, cash-crop opportunities are mediated by the agro-ecological zone. Fitzpatrick's (2011) study from Taplejung district, further east, has highlighted the important role of cardamom cultivation in increasing differentiation within the indigenous Limbu community. Cardamom production in the larger Koshi hills region[14] has risen from 7 hectares in 1971 to 3,930 hectares in 2009 (National Planning Commission, 2013), and it is an important crop in the upper-altitude zone of the Chirkhuwa sub-basin. More recently, cultivation started of a medicinal herb *swertia chirayita* (known locally as *chiraito*), which farmers of Kimalung and Gufagaon began growing 3–4 years ago. It requires less labour and water and minimal investment in inputs, so is suitable in the context of out-migration and climate stress, and can be grown on more marginal *bari* and even *pakho* jungle land, where it is grown on the forest floor.

However, these new crops come with risks. Over the past 8 years, a disease (identified as chirkey disease or rhizome rot in a report by the National Planning Commission, 2013) has affected cardamom cultivation, reducing yields. The price for *charaito* has also dropped recently, and traders had not come to the village in 2016, leaving it to stack up in people's homes and on verandahs. Although one household had reported an income of US$760 in the past year from selling these crops, the average income in the past year in Kimalung and Gufagaon was just NRs. 8,053 (US$76)—as compared to NRs. 112,000 (US$1,020) earned from remittances. Even out of those with a higher income, there is little evidence of accumulation. While observing post-migration changes in livelihoods, households were asked whether they had purchased or or sold any land since their family member migrated. Only one household had sold land and two had purchased (Figure 10). However, one would have expected greater dynamism in the land market had existing crops provided realistic opportunities for accumulation. In this ecologically fragile part

[14]In the Koshi hills (i.e. the Dhankuta, Therathum, Bhojpur, and Sankhuswabha districts), cardamom production rose from 7 hectares in 1971 to 3,930 hectares in 2009.

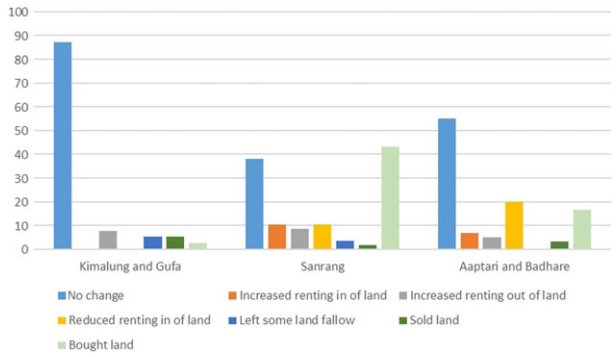

FIGURE 10 The percentage investment in land and changes in land tenure *after* the migration of a family member in each agro-ecological zone.
Source: Survey by research team

of the valley, it is likely that the returns from agriculture are too limited for land to be considered a realistic investment for better-off farmers, particularly given the short cropping season. Added to this is the fact that migrant labour represents a better way to generate cash for the household, particularly for the small number of households that can invest remittances in money lending. What money is accumulated is more likely to be invested in education in the hope that the younger generation can look for a livelihood outside of agriculture—a fact reflected in the expenditures for Kimalung and Gufagaon reported in Figure 9.

In the middle- and lower-altitude agro-ecological zones, the situation is somewhat different, particularly in Aaptari and Badhare. The expanding road network has also opened up opportunities for greater production of fruit and other crops, which can be sold in expanding markets such as Dingla. The upper fields of Sanrang are also suitable for cardamom, while the lower fields of Sanrang and the fields of Aaptari and Badhare are suitable for *rudrakshya* or *dana* cultivation. It is the latter that offers the most lucrative income-generating opportunities. *Rudrakshya* are beads formed by the seeds of the tree *Elaeocarpus ganitrus*. They are important for ritual and also medicinal purposes in India and Nepal. For over a century, this has been an important crop in the Dingla area, although the demand has grown drastically over the past decade, with booming markets in India and increasingly also in China, where it is used as a decorative item. The value of the bead is determined by the size, weight, and the number of grooves or *mukhi*, and farmers are able to earn between NRs. 5,000 and NRs. 10,000 per season, a sum that can increase considerably in a good year. It requires limited labour after the saplings have been planted, so it is ideal for households whose family members have migrated. The water requirements are also less, making it relatively suitable at a time of unpredictable monsoons.[15]

It is in the lower-altitude zone where the change has been most notable, with the average income from *rudrakhshya* in the past year a substantial NRs. 71,000 (US$676). Fifteen per cent of households had increased production of cash crops such as *rudrakhsya* since the migration of a family member, suggesting that it offers a new cropping and income-generating opportunity in a labour-scarce context. However, there is a class dimension, and sharecropping is a disincentive for the tenant and part-tenant Magar, Dalit, and Majhi farmers. For tenants, the average income from cash crops is just NRs. 35,875, less than the NRs. 54,285 (US$497) earned from remittances. Absentee landlords have begun asking for a share of the income from trees on their land planted by tenants, and this has been the source of a number of large disputes in the past following the sale of high-value beads. For larger landowners, however, with more than 0.5 hectares of paddy *khet* land, income is a substantial NRs. 147,142. In Sanrang in the middle-altitude zone, although the current average income from cash crops reported in the survey is just NRs. 9,782 (US$91), only marginally higher than in Kimalung and Gufagaon, this may be due to an apparent

[15]Rumours of people earning huge sums of up to NRs. 60,000 from high–value *rudrakshya* encourage others to enter the trade, and paddy fields in some areas have been replanted with *rudrakhsya* trees. Respondents noted how better-off farmers had been able to reinvest some of the income in commodities such as solar panels, smartphones, and satellite televisions.

reluctance of some households to reveal what they had earned. There does, however, appear to be a commercial dynamism in agriculture that is not evident higher up the valley. In Sanrang, 33% of households had started *rudrakshya* and cardamom cultivation after the migration of a family member, with a further 12% increasing the cultivation of vegetables, fruits, and beans, both for consumption and for sale.

In both the upper- and middle-altitude zones, there was significant activity in the land market, suggesting that moderate differentiation is under way. For example, 17% of households in Aaptari and Badhare had bought land following the migration of their family member,[16] and 5% had sold plots. However, no land had been bought from the absentee landlords (see Figure 10).

While migration remains a key component of livelihoods, there is some moderate return migration in the lower- and middle-altitude zones. This was reported in most interviews to be due to disillusionment with the wages and conditions overseas, coupled with the new income-generating opportunities at home. It appears from the survey that 15% of households in Sanrang have a migrant who has returned permanently. Return migration was a considerable 35% for households in Aaptari/Badhare, where farmers perceived that the opportunities for income generation from *rudrakhshya* was the highest. In spite of this, even here, migration remains a key component of livelihoods and there were no reports of absentee landlords selling off their estates, and for now, the long-term implications of cash-crop cultivation remain uncertain.

When one looks at Kimalung and Gufagaon, not only is overall out-migration higher, but the level of return migration is a negligible 5%. Regardless of the low earnings and high costs associated with migration, the weaker agricultural resource base means that alternative sources for cash are more limited and the migrant economy remains entrenched.

7 | CONCLUSION

The case study from the Chirkhuwa sub-basin has important lessons for how one understands both the expansion of capitalism into peripheral locales, particularly in mountain regions, and the interactions between pre-capitalist and capitalist economic formations. Over the past two centuries, there have been significant shifts in the relations of production and pattern of surplus appropriation. In the past, this involved the feudal bureaucracy and local producers through forced labour and tax obligations. Today, a shift in the revenue sources for the bureaucracy, combined with climate stress and subordination to the market, have made migrant labour the predominant mechanism of surplus appropriation, through wage labour. The persistence of "pre-capitalist" modes of production in the village, however, serves to generate significant profits for employers overseas (who do not need to bear the full cost of labour reproduction).

The paper has also shown that the nature of surplus appropriation, and the degree to which local economic formations are tied to capitalism, are fundamentally linked to the local agro-ecological context. The water-scarce and lower-productivity land of the upper-altitude zone is the most dependent on imported foodstuffs and the migrant labour economy, with negligible opportunities for local wealth accumulation. It is here that the subordination to capital and articulation with capitalism is at its most intense and far-reaching. The lower- and middle-altitude zones, by contrast, are presented with some options for local accumulation through petty commodity production of lucrative cash crops to reduce, if not break, the widespread dependence on remittances. However, opportunities are not equally distributed. The more fertile land on the valley floor has also supported the persistence of semi-feudalism, as landlords have endeavoured to maintain their control over this most desirable and productive land, and the rents that it offers, even in the wake of the long-ended Maoist insurgency.

While the local-level diversity in economic trajectories is notable, the paper also throws up new questions regarding how one characterizes the larger social formation of countries such as Nepal. Aside from the persistence of pre-

[16]Some of this may have been bought using remittance income, with the view to receiving a profit from the land producing *rudrakshya*.

capitalist formations in the countryside, there is negligible capitalist industry within Nepal itself, with the elite long dominated by a comprador–mercantile class, enriched by an import- and aid-based economy (Bhattarai, 2003; Blaikie et al., 2001). However, it is in contexts such as this that migration acts as a "safety net" for the rural poor, and thus labour migration perpetuates these larger structures of underdevelopment. The concept of a "semi-colonial" social formation—a term often coined with regard to Nepal (Bhattarai, 2003; Blaikie et al., 2001)—may be relevant in this context.

What is also clear in this context is that the political alliances necessary for a just social transformation at a national level are deeply complex. Overarching ideological frameworks regarding strategies of mobilization will be ineffective without an awareness of local particularities and the unique matrix of contradictions between social groups that are differently situated in terms of their history of subordination, access to natural resources, and their position in the larger class structure. Alliances will need to encompass a peasantry across agro-ecological zones that is integrated into multiple modes of production, and divided by both ethnicity and class. This includes those engaged primarily in labour in the capitalist sector (via migration), those working as sharecroppers, and those subject to both forms of exploitation simultaneously. Understanding political alliances, however, also requires a richer understanding of how the larger social formation is reproduced, particularly regarding the role of the state, which today represents multiple class interests that are not necessarily in harmony. This includes landed interests, local proto-capitalist entrepreneurs, the comprador–mercantile class, and a lucrative middleman economy that mediates migration flows.

Also requiring further research are the political parties, which have a powerful influence on the ground and can shed further light on the political economy of the social formation and its reproduction. While some may be agents of change, they also serve to reinforce inequalities through the powerful patronage networks that parties control. They can play a role in reproducing the power of local landed classes in the pre-capitalist sector, as well as the "middlemen" who mediate the links between the village and capitalism, such as the manpower sector,[17] or import–export companies. This is all the more relevant in the post-conflict context, whereby parties such as the CPN (Maoists) who had in the past advocated for social transformation, are now increasingly tied into the same political system. The restoration of pre-conflict inequalities (as shown with the restoration of rents to pre-conflict levels in Bhadare) raises questions of the strategies of political mobilization as well as the grassroots alliances necessary in the quest for social justice.

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[17]See, for example, the newspaper report in *Himal Khabarpatrika* on the political influence of manpower agencies that offer overseas employment contracts, translated to English at http://nepalitimes.com/news.php?id=11778

REFERENCES

Adhikari, A. (2012). Revolution by other means: The transformation of Nepal's Maoists in a time of peace. In S. Von Einsiedel, D. M. Malone, & S. Pradhan (Eds.), *Nepal in transition: From People's War to fragile peace* (pp. 265–285). New York: Cambridge University Press.

Adhikari, J. (2001). Mobility and agrarian change in central Nepal. *Contributions to Nepalese Studies*, *28*, 247–267.

Adhikari, J. (2008). *Food crisis in Karnali: A historical and politico-economic perspective*. Kathmandu: Martin Chautari.

Adhikari, J., & Hobley, M. (2011). *Everyone is leaving—Who will sow our fields? The effects of migration from Khotang district to the Gulf and Malaysia*. Kathmandu: Swiss Agency for Development and Cooperation and Helvetas.

Adhikari, J., Seddon, D., & Gurung, G. (2001). *The new Lahures: Foreign employment and remittance economy of Nepal*. Kathmandu: Nepal Institute of Development Studies.

Althusser, L., & Balibar, E. (1968). *Reading Capital*. London: Redwood Burn.

Araghi, F. (2009). The invisible hand and the visible foot: Peasants, dispossession and globalization. In H. Akram-Lodhi, & C. Kay (Eds.), *Peasants and globalization: Political economy, rural transformation and the agrarian question* (pp. 111–147). London: Routledge.

Barney, K. (2009). Laos and the making of a "relational" resource frontier. *Geographical Journal*, *175*, 146–159.

Basu, D., & Das, D. (2013). The Maoist movement in India: Some political economy considerations. *Journal of Agrarian Change*, *13*, 365–381.

Bernstein, H. (2003). Farewells to the peasantry. *Transformation*, *52*, 1–19.

Bhaduri, A. (1973). A study in agricultural backwardness under semi-feudalism. *The Economic Journal*, *83*, 120–137.

Bhaduri, A. (1977). On the formation of usurious interest rates in backward agriculture. *Cambridge Journal of Economics*, *1*, 341–352.

Bhattarai, B. (2003). *The nature of underdevelopment and regional structure of Nepal: A Marxist analysis*. New Delhi: Adroit.

Blaikie, P., Cameron, J., & Seddon, D. (2001). *Nepal in crisis: Growth and stagnation at the periphery*. New Delhi: Adroit.

Blaikie, P., Cameron, J., & Seddon, D. (2002a). *Peasants and workers in Nepal*. New Delhi: Adroit.

Blaikie, P., Cameron, J., & Seddon, D. (2002b). Understanding 20 years of change in west-central Nepal: Continuity and change in lives and ideas. *World Development*, *30*, 1255–1270.

Caplan, L. (1970). *Land and social change in east Nepal: A study of Hindu–tribal relations*. Berkeley, CA: University of California Press.

Central Bureau of Statistics (1996). *1995/6 Nepal living standards measurement survey*. Kathmanndu.

Central Bureau of Statistics (2009). *Statistical yearbook of Nepal*. Kathmandu.

Central Bureau of Statistics (2011). *Nepal living standards measurement survey, 2010–11*. Kathmandu.

Dunaway, W. A. (1996). The incorporation of mountain ecosystems into the capitalist world-system. *Review (Fernand Braudel Center)*, *19*, 355–381.

Dupré, G., & Rey, P. P. (1979). Reflections on the relevance of a theory of the history of exchange. In D. Seddon, & H. Lackner (Eds.), *Relations of production: Marxist approaches to economic anthropology* (pp. 171–208). London: Frank Cass.

Fitzpatrick, I. C. (2011). *Cardamom and class: A Limbu village and its extensions in east Nepal*. Kathmandu: Vajra Publications.

Fortier, J. (2001). Sharing, hoarding, and theft: Exchange and resistance in forager–farmer relations. *Ethnology*, *40*(3), 193–211.

Fricke, T. (1988). Marriage, household cycles, and the maintenance of equality among the Tamang of north central Nepal. *Contributions to Nepalese Studies*, *15*(1), 1–17.

Gaenszle, M. (2000). *Origins and migrations: Kinship, mythology and ethnic identity among the Mewahang Rai of east Nepal*. Kathmandu: Mandala Book Point.

Graner, E., & Gurung, G. (2003). Arab ko lahure: Looking at Nepali labour migrants to Arabian countries. *Contributions to Nepalese Studies*, *30*, 295–325.

Harriss, J. (2013). Does "landlordism" still matter? Reflections on agrarian change in India. *Journal of Agrarian Change*, *13*, 351–364.

Harvey, D. (2003). *The new imperialism*. New York: Oxford University Press.

Hayami, Y., & Damodaran, A. (2004). Towards an alternative agrarian reform: Tea plantations in South India. *Economic and Political Weekly*, *39*, 3992–3997.

Hitchcock, J. T. (1996). *The Magars of Banyan Hill*. New York: Holt, Rinehart and Winston.

Höfer, A. (1979). *The caste hierarchy and the state in Nepal: A study of the Muluki Ain of 1854*. Innsbruck: Universitätsverlag Wagner.

Holmberg, D., March, K., & Tamang, S. (1999). Local production/local knowledge: Forced labour from below. *Studies in Nepali History and Society*, *4*, 5–64.

Kansakar, V. B. S. (1973–1974). *History of population migration in Nepal*. *The Himalayan Review*, *VI*(5&6).

Lawoti, M. (2014). Reform and resistance in Nepal. *Journal of Democracy*, *25*, 131–145.

Lewis, T., & Shakya, D. R. (1988). Contributions to the history of Nepal: Eastern Newar diaspora settlements. *Contributions to Nepalese Studies*, *15*, 25–65.

Liechty, M. (2003). *Suitably modern: Making middle class culture in a new consumer society*. Princeton, NJ: Princeton University Press.

Macfarlane, A. (1976). *Resources and population: A study of the Gurungs of Nepal*. Cambridge: Cambridge University Press.

Mahat, R. S. (2005). *In defence of democracy: Dynamics and fault lines of Nepal's political economy*. New Delhi: Adroit.

Marx, K. (1993). *Grundrisse*. London: Penguin Classics.

Marx, K. (2008 [1933]). *Wage labour and capital*. Rockville, MD: Wildside Press.

McDougal, C. (1973). Structure and division in Kulunge Rai society. *Kailash*, *1*, 205–224.

Meillassoux, C. (1980). From reproduction to production: A Marxist approach to economic anthropology. In H. Wolpe (Ed.), *The articulation of modes of production: Essays from economy and society* (pp. 93–105). Boston: Routledge and Kegan Paul.

Meillassoux, C. (1981). *Maidens, meal and money: Capitalism and the domestic community*. Cambridge: Cambridge University Press.

Nakane, C. (1966). A plural society in Sikkim. In C. von Fürer-Haimendorf (Ed.), *Caste and kin in Nepal, India and Ceylon* (pp. 213–263). London: Asia Publishing House.

National Planning Commission (2013). *Research into the long term impact of development interventions in the Koshi Hills of Nepal*. Kathmandu: National Planning Commission/DFID.

Nilsen, A. G. (2008). Political economy, social movements and state power: A Marxian perspective on two decades of resistance to the Narmada Dam Projects. *Journal of Historical Sociology*, *21*, 303–330.

O'Malley, L. (1907). *Darjeeling district gazetteer*. New Delhi: Gyan Publishing House.

Paudel, D. (2016). Re-inventing the commons: Community forestry as accumulation without dispossession in Nepal. *The Journal of Peasant Studies*, *43*(5), 1–21.

Perreault, T. (2013). Dispossession by accumulation? Mining, water and the nature of enclosure on the Bolivian Altiplano. *Antipode*, *45*, 1050–1069.

Pfaff-Czarnecka, J. (2008). Distributional coalitions in Nepal: An essay in democratisation, capture and (lack of) confidence. In K. Hachhethu, & D. Gellner (Eds.), *Local democracy in South Asia: Micro-processes of democratisation in Nepal and its neighbours* (pp. 71–104). New Delhi: SAGE Publications.

Practical Action (2009). *Temporal and spatial variability of climate change over Nepal (1976–2005)*. Kathmandu.

Pradhan, K. (1991). *The Gorkha Conquest: The process and consequences of the unification of Nepal, with particular reference to eastern Nepal*. Oxford: Oxford University Press.

Prasad, P. H. (1973). Production relations: Achilles' heel of Indian planning. *Economic and Political Weekly*, *8*(19), 869–872.

Rankin, K. N. (2004). *The cultural politics of markets*. London: Pluto Press.

Regmi, M. (1976). *Landownership in Nepal*. New Delhi: Adroit.

Regmi, M. (1982). Saptari and Mahottari affairs, A.D. 1810–11. *Regmi Research Series*, *14*, 123–128.

Regmi, M. (1987). The Chisapani Fort. *Regmi Research Series*, *19*, 160–165.

Regmi, M. C. (1965). *Land tenure and taxation in Nepal: The Jagir, Rakam, and Kipat tenure systems*. Berkeley, CA: Institute of International Studies, University of California.

Regmi, M. C. (1972). *A study in Nepali economic history, 1768–1846*. New Delhi: Adroit.

Regmi, M. C. (1978). *Thatched huts and stucco palaces: Peasants and landlords in 19th-century Nepal*. New Delhi: Vikas.

Regmi, M. C. (1999). *A study in Nepali economic history 1768–1846*. Pinnacle Technology.

Resch, R. P. (1992). *Althusser and the renewal of Marxist theory*. Berkeley, CA: University of California Press.

Rodgers, G., & Rodgers, J. (2001). A leap across time: When semi-feudalism met the market in rural Purnia. *Economic and Political Weekly*, *36*, 2–8.

Rudra, A. (1974). Semi-feudalism, usury capital, etcetera. *Economic and Political Weekly*, *9*(48), 1996–1997.

Scott, J. C. (2009). *The art of not being governed*. An Anarchist History of Upland Southeast Asia. New Haven, CT: Yale University Press.

Seddon, D. (1978). *Relations of production: Marxist approaches to economic anthropology*. London: Frank Cass.

Seddon, D. (1987). *Nepal: A state of poverty*. New Delhi: Vikas.

Seddon, D. (2012). *Deep history of the Koshi Hills*. Kathmandu: GRM/DFID.

Sehgal, R. (2005). Social reproduction of third world labour in the era of globalisation: State, market and the household. *Economic and Political Weekly*, *40*(22–23), 2286–2294.

Shah, A. (2013). The agrarian question in a Maoist guerrilla zone: Land, labour and capital in the forests and hills of Jharkhand, India. *Journal of Agrarian Change*, *13*, 424–450.

Sharma, R. S. (1985). How feudal was Indian feudalism? *The Journal of Peasant Studies*, *12*, 19–43.

Shneiderman, S. (2010). Are the central Himalayas in Zomia? Some scholarly and political considerations across time and space. *Journal of Global History*, *5*, 289–312.

Shrestha, A. N. (2001). *Bleeding mountains of Nepal: A story of corruption, greed, misuse of power and resources*. Kathmandu: Ekta Books.

Singh, K. S. (2007). Problematising proselytisation: A case study from West Nirmar. *Social Science Probings*, *19*, 105–148.

Subba, T. B. (1992). *Ethnicity, state, and development: A case study of the Gorkhaland movement in Darjeeling*. New Delhi: Vikas.

Sugden, F. (2013). Pre-capitalist reproduction on the Nepal Tarai: Semi-feudal agriculture in an era of globalisation. *Journal of Contemporary Asia*, *43*, 519–545.

Sugden, F., Gurung, G. (2012). *Absentee landlordism and agrarian stagnation in Nepal: A case from the Eastern Tarai*. Kathmandu: Nepal Institute of Development Studies.

Sugden, F., Maskey, N., Munch-Petersen, J., Sherpa, T. Y. C., & Bastakoti, R. (Forthcoming). *Floodplain and river dependent livelihoods, land poverty and upstream hydropower development in the Koshi basin (Working Paper)*. Colombo, Sri Lanka: International Water Management Institute (IWMI).

Sugden, F., & Punch, S. (2014). Capitalist expansion and the decline of common property ecosystems in China, Vietnam and India. *Development and Change*, *45*, 656–684.

Sugden, F., Saikia, P., Maskey, N., & Pokharel, P. (2016). Gender, agricultural investment and productivity in an era of out-migration: A case study from Nepal and Bihar. In L. Bharati, B. R. Sharma, V. Smakhtin, & A. S. Mandal (Eds.), *The Ganges river basin: Status and challenges in water, environment and livelihoods* (pp. 273–293). London: Routledge.

Sugden, F., Shrestha, L., Bharati, L., Gurung, P., Maharjan, L., Janmaat, J., Price, J., Sherpa, T. Y. C., Bhattarai, U., & Koirala, S. (2014). *Climate change, out-migration and agrarian stress: The potential for upscaling small-scale water storage in Nepal (Research Report)*. Colombo, Sri Lanka: International Water Management Institute (IWMI); doi:https://doi.org/10.5337/2014.210

Sunam, R. (2015). In search of pathways out of poverty: Mapping the role of international labour migration, agriculture and rural labour. *Journal of Agrarian Change*, *17*(1), 67–80.

van der Klei, J. S. (1985). Articulation of modes of production and the beginning of labour migration among the Diola of Senegal. In W. Van Binsbegen, & P. Geschiere (Eds.), *Old modes of production and capitalist encroachment: Anthropological explorations in Africa* (pp. 71–93). Leiden: KPI Limited.

van Driem, G. L. (2001). *Languages of the Himalayas: An ethnolinguistic handbook of the greater Himalayan region: containing an introduction to the symbiotic theory of language*. Leiden: E. J. Brill.

White, B. (1997). Agroindustry and contract farmers in upland West Java. *The Journal of Peasant Studies*, *24*, 100–136.

Wolpe, H. (1979). Capitalism and cheap labour-power in South Africa: From segregation to apartheid. *Economy and Society*, *1*, 425–456.

Wolpe, H. (1982). Capitalism and cheap labour-power in South Africa: From segregation to apartheid. In H. Wolpe (Ed.), The articulation of modes of production: Essays from *Economy and Society*. London: Routledge and Kegan Paul.

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