

Agricultural land underutilisation in the hills of Nepal: Investigating socio-environmental pathways of change



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ABSTRACT

Why should a parcel of agricultural land be abandoned when there is a scarcity of food? In this paper, we address this question in relation to the hills of Nepal, where agricultural land is being abandoned at an unprecedented rate, despite looming food scarcity. Responding to studies that have highlighted land abandonment trends, we conducted in-depth case studies in two of Nepal's hill districts to understand how land abandonment is taking place, and under what circumstances. Using an interdisciplinary lens and transcending linear models of agrarian change which attribute land abandonment to one or more prominent factors, our study unravels complex, cross-scalar processes, involving the interaction among social forces and environmental factors which lead to land underutilisation. The paper shows that land underutilisation happens through what we term 'socio-environmental pathways', which operate across scales, yet are deeply rooted in local dynamics of agrarian change. These pathways are triggered by, and embroiled within, three wider socio-economic and political dynamics in contemporary Nepal, namely: socio-cultural changes that favour out-migration; evolving economic opportunities that make farming less profitable; and a policy context in which the gravity of the land abandonment challenge goes unrecognised. The framework of 'socio-environmental pathways' applied here also advances a theoretical lens to explain agrarian change in a way that integrates multiple scales and multiple sectors, emphasising a thoroughly empirical approach. Finally, we identify key policy implications of this research on livelihoods and sustainable development.

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1. Introduction

On a fine autumn morning in 2014 in Nalma Village of Lamjung district in the central Nepal Himalayas, a Gurung farmer expressed deep frustration over his family farm business. A father of three sons and two daughters, Mr. Gurung had only his wife and a hired labourer to work on his farm. During the previous six years, he had abandoned over half his farmland. He explained:

"My sons do not want to work on the farm. Two of them have already left for Arab, and the third and the youngest one has just sent his passport and some money to a manpower agency in Kathmandu. The youngest son is anxiously awaiting the visa. He is spending time wandering through the village, playing football, and dancing with friends. The new generation loves going out and none of them wants to stay in the village. I have two daughters who are younger than [my] sons and go to school. I have seven members in the family, but only my wife and I are here to work on the farm. We just cultivate parts of the farm around the house"

Mr. Gurung is not alone in this village of 438 families, and Nalma

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is not the only village in Nepal to have experienced such land underutilisation and abandonment. Evidence indicates that agricultural land is being abandoned in Nepal at an unprecedented rate. Nepal was a food-exporting country until the 1970s, but is now a net food-importing nation (Baral, 2000; Pyakuryal et al., 2010). With only 21 percent of the country's land area being arable, the Himalayan country is facing the spectre of growing food shortages (Hobbs, 2009). Given the scale of the food insecurity challenge facing Nepal, the ways and rate at which the underutilisation of arable land is occurring are particularly troubling. As recent studies show, agricultural land is being abandoned or underutilised while the majority of the population still derives subsistence from agriculture (Adhikari et al., 2016; Malla, 1992; Pain et al., 2014), and where a food security crisis looms due to declining overall availability of food. Arable patches of agricultural land, owned by farmers, are being abandoned. The trend has escalated over the past 15 years or so, when the country experienced a nation-wide Maoist War which led to the political transition and instability (Paudel et al., 2014). Much of the land that is left underutilised in the rural areas, which means that the regional political economy – favouring the accumulation of people of wealth in key centres of power and wealth – is also likely at play. Evidently, land abandonment is not peculiar to Nepal, nor to the contemporary historical era. It has been reported in other national contexts and in other time periods and has, in the past, been attributed to rapid industrial development, an abundance of non-farm opportunities, and the increasing prosperity of the general population (see, for example, Walther, 1986).

As we explain in the rest of the paper, the agrarian change involving land abandonment has resulted from a complex intersection of government policies, the particular agro-ecologies of specific localities in Nepal, emerging cultural norms and preferred lifestyles, the historical contingencies that have arisen from post-conflict transition, and the place of Nepal in the global economy. We offer empirical insights into the dynamics of the land underutilisation and abandonment phenomenon, focussing on the questions of how it happens – i.e. the dynamics of land underutilisation – and why it happens – i.e. the logics of underutilisation. This research presumes that there is both a national story to tell regarding land abandonment and underutilisation in Nepal, and a multitude of local stories that vary across localities. The latter, in aggregate, inform and explain the former and it is these stories, which constitute the evidence and the discussion that follow. Underpinning our approach is a desire to answer an empirical question: why is land either being underutilised or taken out of production when livelihoods in rural areas are so reliant on farming? To answer this question, we take a pathways approach to rural livelihoods taking clues from the work of Leach et al. (2010), but focussing on 'socio-environmental pathways' driving land abandonment or underutilisation, eventually creating or expanding the underutilised land (UUL). This approach has allowed us to take into what account the complex dynamics leading to land underutilisation, rather than assuming that a few clearly identifiable 'drivers' will be sufficient to explain agrarian transformations.

The pathway approach to analysis (Leach et al., 2010) we present here allows the development of a system-wide and integrated understanding of land underutilisation as a development challenge, and then to explore solutions. As elaborated in the next section, this approach emphasises looking at the emergent and evolutionary socio-environmental links across contexts, drivers, processes and outcomes in relation to the issue of land underutilisation. We approach the question empirically through the experience of two community-level case studies from Nepal's middle hill districts of Lamjung and Kavre. We demonstrate complex and site-specific socio-environmental pathways that incentivise – sometimes

necessitate – landowners and tenants to leave their land unused. Such land is locally referred to as *bajho-jamin* or uncultivated/abandoned land, which we define as parcels of private land (both irrigated *khet* and rainfed *bari* land) that were previously cultivated but have been left unused for at least three years. We use the term 'underutilisation' to refer to the process through which lands are left uncultivated.

The paper is structured as follows. The next section reviews the literature on the intersections between migration, agrarian change and development, and then outlines socio-environmental pathways as the analytical approach used in this paper. We present here a cursory overview of a very large literature with a view to situate our own methodological and theoretical approach in the wider theoretical debate. In Third Section, we provide the national context of land use and underutilisation in Nepal, highlighting key trends and emerging socio-political dynamics around the land issue. In Section Four, we present an overview of our methodology, as well as a brief and comparative overview of the two case study sites. Section 5 outlines site specific land underutilisation pathways in the two sites, which represent some of the most prominent social and ecological contexts in terms of land use, livelihoods and ethnic composition of the community in Nepal. We discuss key issues coming out of the case studies in Section 6, while also making an attempt to synthesise findings in relation to the pathway approach to analysis of land underutilisation. In Conclusion, we draw some lessons and policy implications of the study.

2. Agrarian change, migration and rural development: conceptualising socio-environmental pathways

The case of land underutilisation, as manifested in specific parcels of the Nepal's rural landscape, is indeed a result of a complex socio-environmental process that cuts across several broader domains, such as migration, development, environmental change, political economy, and local politics. While migration is presumed to be a cause of land underutilisation, traditionally it has also been assumed that migration from rural areas is driven by poverty and dearth, as migrants and their families strive to improve their living conditions (Ravenstein, 1889; Lee, 1966; Todaro, 1969). The inter-relationship between agrarian change – of which land underutilisation is just one aspect – and the wider political and economic processes is complex and non-linear (see Moore and Venneman, 2003). It has equally been recognised, however, that generalisations about how development and migration are linked to the process of agrarian change often fall at the fence of 'context' (De Haas, 2010). There is not one story to tell, even within single sites or villages, as every household or a community is embedded in different economic contexts, cultural milieu, and social fabric (Rigg, 2007: 163).

Migration has been interpreted as closely linked to agrarian change, and a range of causal factors from environmental change (Massey et al., 2010) to geographic differences in wages are reported (Wise and Veltmeyer, 2016). There are two particular – and problematic – tendencies that have, in the past, characterised studies of rural out-migration. One is what has been termed the 'sedentary peasant paradigm' (Rigg and Salamanca, 2011) – the tendency to assume that, in the past, peasants were largely immobile, cocooned in their natal villages. The second is a tendency to reduce and instrumentalise complex, shifting and varied migration decisions to discrete sets of 'push' and 'pull' factors (e.g. Textor, 1961). In a review paper, De Haas (2010) outlines the evolution of migration theory and draws a line between, on the one hand, a broadly optimistic approach that views rural migrants as rational decision makers, making carefully considered labour optimisation decisions (e.g. De Haas, 2010; Jalilian and Reyes,

2012); and, on the other, a more pessimistic position that considers migrants and their decisions in the context of the market economy exerting undue pressure (e.g. Deshingkar, 2006) or triggering 'adverse incorporation' (Mosse, 2010). These framings of the migration–development relationship tend to suffer because rarely can migration be neatly linked to a single tendency, or clearly isolated as the sole driver of agrarian change.

While there is a very large literature on migration and development, studies that examine and assess the interface and inter-linkages between migration, land use and agriculture are far fewer. Agrarian change can be shaped by migration as farming adapts to absence, and at the same time, agrarian change may be the reason why people leave in the first place. There are an array of factors that shape the nature of the links between migration and agriculture – including, environmental conditions, infrastructure, access to markets, returns to non-farm work, and terms of trade between farm and non-farm – but of central importance is the place and significance of farming in livelihoods. Traditionally, migration – which was often circular – was timed to coincide with peaks in the farming calendar and was subsidiary to the main task of farming and securing subsistence. It is not uncommon today, however, for farming to be subsidiary to the needs of non-farm work such as the returns to the latter compared to the former. Even so, empirical evidence from field studies demonstrates the need to entertain a wide range of possible outcomes when it comes to exploring the links between migration and farming (see, for example, Gray, 2009; Gray and Bilsborrow, 2014).

A key moral question that is associated with the study of migration is whether it should be taken as 'developmental' or 'anti-developmental'. Take, for example, land abandonment itself. The term has negative connotations – and the assumption is often that it is a 'problem' that requires solution. But it may be that taking marginal lands out of production so that people can deploy their labour in higher return alternative activities is positive, at least for that individual and perhaps his or her household. This is particularly the case when local condition, whether environmental (marginal lands), economic (weak markets, poor infrastructure), or institutional (poor state provision) provide few opportunities for 'productive' farm investment (Manivong et al., 2014; Bylander, 2014; Davis et al., 2010; Deshingkar, 2012). But migration can also hollow-out villages, isolate the old, infirm and vulnerable, unsettle community organisations and activities, and push up the price of food locally. In some situations, land may be abandoned, but rural settlements are utterly not left behind (see Deshingkar, 2006: 2, Rigg et al., 2016). One of the puzzles of agrarian change in Asia is the sheer persistence of the smallholder in the face of deep social and economic change, even while smallholder farming is often becoming increasingly sub-livelihood. In other situations, farmers under pressures of dispossession are forced to adopt multi-local livelihoods as in some areas of Indonesia (Elmhirst, 2012). These broader issues are beyond the scope of this research; what we do is to unpack *why* and *how* land underutilisation and abandonment is happening in two particular localities in Nepal, and in so doing, advance a socio-environmental pathways approach to understanding agrarian change.

The context of Nepal hills is stimulating for the application of socio-environmental pathways approach to the study of agrarian change. Nepal is a mountainous country marred by conflict, and situated within an expanding geo-political orbit of the global powers involving India and China. In this scenario, the link between migration and agrarian change is becoming even more complicated. There is no question that levels of access, degrees of relative isolation, frictions of distance and everyday mobilities have profoundly changed, promoting rural people, especially youth, to reconsider the agrarian life. While regional and global political

economic processes have acted as the pull factor (e.g. the demand for unskilled labor) in the Gulf), rural households and their members are not stymied completely by structural forces such as better wages in the Gulf countries; there is also a degree of cultural, political and local geographic force involved in decisions of rural households that lie as a kernel of Nepal's agrarian change. Processes of agrarian change are thus simultaneously cross-scalar and multi-sectoral (Ojha et al., 2016a,b). The question then is how exactly the everyday actions (and inaction) of rural people are produced in relation to livelihoods, land ownership and management, and under such local-global interchanges, which bring all sorts of, and sometimes apparently insurmountable barriers and constraints.

In this paper, then, we take two *relative* positions, as starting points for our discussion. First, that contemporary change in Nepal – most notably the political transition and economic stagnation – has opened up a mobility window that was not present in the early development decades. And second, that the opportunities and possibilities that offer themselves to rural Nepalis are shaped by higher level structures and processes, while important push factors are also at play in the rural locations (such as low returns from agriculture and increasing environmental stress). While studies have highlighted the effect of one or another factor on migration, dynamic interrelationships among factors operating at multiple scales (local, sub-national, national and global) and across multiple domains (such as social, environmental, cultural, economic) are not well studied in relation to specific cases and localities.

The lens of socio-environmental pathways is underpinned by a conceptual and methodological strategy that allows examination of the interrelationship between migration, agrarian change and rural development across scales, and as an emergent interplay of these diverse domains. This idea also has some resemblance with the theory of complex adaptive systems as applied in food insecurity (Foran et al., 2014), agricultural change (Hall and Clark, 2010), climate change adaptation (Wise et al., 2014), and natural resource management (Ojha et al., 2013). Socio-environmental pathways emphasise an interactive and emergent interplay among material factors, institutional formations, and discursive forces across multiple scales. These pathways are also co-evolutionary (Rammel et al., 2007) and stochastic, not necessarily amenable to deterministic modelling. Tracking these pathways through the use of qualitative, and to some extent, quantitative and geographic techniques can help understand the causal dynamics behind particular socio-environmental outcomes, such as land underutilisation (a simplified pathway view is presented in Fig. 1). This approach expands the analysis of the relationship among socio-environmental phenomena beyond the deterministic view of causality, encompassing the 'field effect' in the view of Pierre Bourdieu (1998), and the discursive influence through the 'conduct of conduct' in the governmentality framing of Michael Foucault (2000).

We see that socio-environmental pathways approach is propelled by material, institutional and discursive forces. Here, the material forces include environmental stress, roads, geographical locations and remoteness. Institutional forces include land tenure, policy arrangements, customary land management practices and the like. Discursive forces include people's perceptions, sense of property security, public imaginations and media rhetoric that shape people's views and positions in relation to land use and management. These forces could be mapped at different locations and stages in socio-environmental pathways, starting with the wider context, and then progressively moving into the core of the pathways, incorporating drivers, triggers, processes, and intermediate and ultimate outcomes. As such, the pathway can be an important causal domain that could explain land underutilisation outcomes. In this study, land underutilisation is regarded as the central phenomenon to be explained, and hence, we navigate

Socio-environmental pathways: A conceptual framework

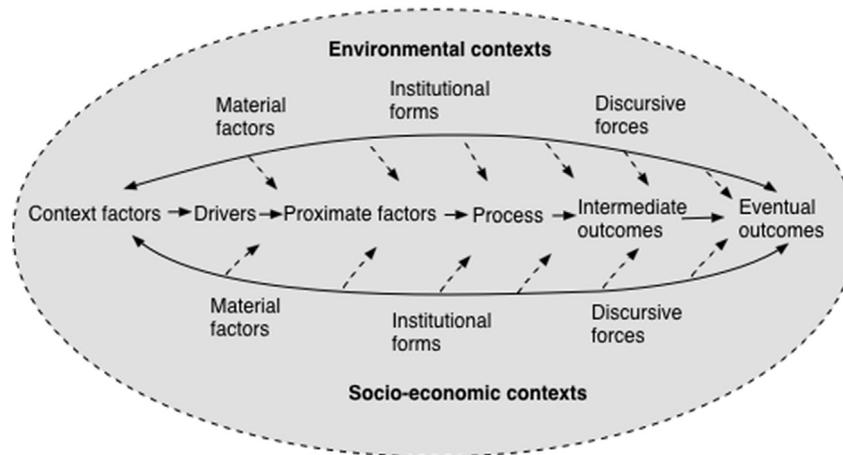


Fig. 1. Socio-environmental pathways: A conceptual framework.

underlying pathways to arrive at locality specific explanation of the phenomenon. A key merit of such empirically grounded analysis of socio-environmental pathways is that this can generate critical but pragmatic understanding of a socio-environmental problem, and as a result, can yield policy relevant insights, as argued by Wise et al. (2014) in their study of the adaptation problem. We apply this framing in two case studies and then present conceptual and policy insights.

3. The national context of land abandonment and underutilisation

The agrarian character of Nepalese society is changing rapidly, and yet the arable land remains a key source of local livelihoods, food security, and national development. With over 70% of the population directly drawing livelihoods from agriculture, the arable land remains a key national and local resource (Deshar, 2013; MoAD, 2013). Historically, rural households have cultivated crops and reared livestock for self-provisioning, while also making a significant contribution to the food security of the wider Nepali society (Neupane, 2000; Sharma et al., 2014). The importance of land is also reflected in the fact that many of the political upheavals in Nepal were rooted in the issue of land access (Karki, 2002). Even a small change in land use is often linked to a major change in social relations, as throughout Nepal's history, land has been the key basis of political and economic power (Regmi, 1978).

As local realities of land ownership and agriculture change, society's aggregate dependence on land for food is also dwindling. Over the past decade, the contribution of agriculture to livelihoods and the economy has declined sharply as new off-farm opportunities have emerged, not least because of the growing international labour migration (Sunam and McCarthy, 2016; Tiwari and Joshi, 2012). Until the 1970s, Nepal was in food surplus, but since then it has become a food importing country (Baral, 2000). This decline is not necessarily due to problems inside institutions of agriculture but more a result of national policy lacking strategies to maintain agriculture in the face of changing regional political economies. Various factors external to agriculture have been reported. In the recent years, for example, urban expansion has transformed land use from agriculture to urban and periurban settlements. The access to arable land is also a major issue in the country. 25% of Nepal's population is estimated to be landless or near-landless, with many earning a living by selling their labour or through

tenancy arrangements (Adhikari, 2008; CBS, 2013; CSRC, 2009). Land fragmentation has also been reported as a factor causing the decline of agriculture productivity (MoAD, 2013).

Perhaps the most central factor affecting the land use dynamics is out migration from the rural areas. This phenomenon has a long history but has become more pronounced in recent years. The history of *lahures* (i.e. individuals joining military and police service of the UK, India, Singapore, Malaya, Brunei and Nepal) and the emergence of 'new *lahure*' (i.e. labour migration to the Middle East) economy are among the prominent forms of rural out migration reshaping agrarian life in Nepal. In addition, the primarily rural nature of the Maoist rebellion (Joshi and Mason, 2007) – targeting traditional land-based institutions as a site of violent movements and the creation of parallel governments at the peak time of the civil war in the early 2000s – also provided an important political, economic, institutional and discursive context for rural residents to rethink their ties with land as a source of livelihoods and culture. The Maoist rebellion forced many landowners from the rural areas to migrate to the cities.

An emerging body of research shows that over the last two decades, an increasing proportion of farmland in the mid-hills of the country has become either underutilised or abandoned (Adhikari, 1996; Jackson et al., 1998; Khanal, 2002; Khanal and Watanabe, 2006; Malla, 1992; Paudel et al., 2012, 2014; Thapa, 2001). A survey conducted by Nepal's Ministry of Agricultural Development shows that in 2013/14, of the 4.1 million hectares of available arable land, a total of 1.03 million hectares (or 24.9%) has been left uncultivated (MoAD, 2014). Various studies have documented this process (Khanal and Watanabe, 2006; Paudel et al., 2014). While there is no consistent definition used in these studies for land underutilisation or land abandonment (and we acknowledge this as a limitation for comparative purposes and hence have been transparent about our definitions), it is clear that multiple studies point to the widespread underutilisation of land across the Nepal's mid-hills.

Studies have identified various 'drivers' of land underutilisation, which include: migration (Gartaula et al., 2012; Khanal and Watanabe, 2006; Jaquet et al., 2015); urbanisation (Rimal, 2013); conflict (Seddon and Adhikari, 2003; Upreti and Müller-Böker, 2010); insecurity of land tenure (Dhakal, 2011); increased remittances and pensions (Sunam and McCarthy, 2016); and diversification of household income and livelihoods strategies (Gautam and Andersen, 2016; Rahut et al., 2014). Locality and biophysical

factors, such as ecological fragility, plot fragmentation, marginality, vulnerability to landslides and erosion, and inaccessibility have also been found to drive land use change (Gerrard and Gardner, 2002; Jodha, 1992; MacDonald et al., 2000; Neupane, 2000; Paudel et al., 2014).

Amongst these ‘drivers’, youth out-migration has been prominently reported in many studies (DoFE, 2014; Seddon et al., 2002; Thieme and Wyss, 2005). Migration not only creates a shortage of agricultural labour, but also brings money to families at home, thus creating the financial ‘space’ for some households to de-emphasise farming while others, in theory, use the remittance income to invest in agricultural technologies, replacing labour for capital. A government survey reported that the percentage of households receiving remittances increased from 23% in 1995/96 to 56% in 2010/11, and the share of remittances in household income rose from 27% to 31% over the same period (CBS, 2013). The political conflict also played a role in driving migration, as households left their land in rural areas to move to urban areas for reasons of security (CSRC, 2009; Seddon and Adhikari, 2003; Upreti and Müller-Böker, 2010). Despite such a growing body of research on Nepal’s agrarian change, there are two key absences: firstly, an integrative understanding of the social, economic and environmental processes that might help explain why a land parcel is left unused and secondly, the pathways that result in land underutilisation.

Nepal’s evolving policy provisions are fragmented and often contradictory, much to the disservice of solving land underutilisation problems. Indeed, the country has a long history of policy development on ‘land reform’, but with limited implementation. The past decade alone has seen a number of policy decisions – a new Land Use Policy (MLRM, 2012), Agriculture Development Strategy (GoN, 2015), a long term Agriculture Perspective Plan (APROSC and JMA, 1995) and a range of land reform policies, thirteen high level land reform commissions, and various task forces and review panels (Badal, 1995; Gajurel, 2011). Barely any of the assorted policy recommendations emerging from these initiatives has been implemented.

Land use (or non-use) is also shaped by other sectoral policies, which often conflict with agricultural and land policies in Nepal (FAO, 2010b). A key sector affecting agricultural land is forestry, where a new Forestry Sector Strategy (MoFSC, 2015) was recently approved. A review of the Strategy shows that it does not have a clear roadmap for managing forests as part of agricultural landscapes in the mountain region of Nepal (Ojha et al., 2016b). Likewise, migration is regulated by the Foreign Employment Act 2007, which has an underlying aim to encourage people to migrate abroad for work (MOLE, 2007), rather than incentivise youths to stay on the land. Nepal’s new Constitution (2015) has enshrined the right to food and food sovereignty as fundamental rights, with clear signals to maintain active and equitable use of arable land in the country.¹ However, policy and legal documents have not been adjusted to reflect such changes. For example: sectoral regulations – such as the Foreign Employment Act 2007, Land Use Policy 2012 and the Agriculture Development Strategies (2015–2035) – are not consistent and complementary with these provisions of the constitution. The Foreign Employment Act 2007 motivates people to work abroad, which contradicts the Land Use Policy 2012 and Agriculture Development Strategy (2015–2035), which aim to retain youth in Nepal’s development through people’s engagement

in agriculture and discouraging out migration. Indeed, questions of land and agriculture have been further side-lined, as political leaders keep debating how the centralised system of governance that existed for over two hundred and fifty years in the history of the Nepali state could be restructured as a new federal system (Shneiderman and Tillin, 2015). Generally, studies are pointing to the need for addressing multi-faceted issues of land management and food insecurity as an intertwined issue (Sharma and Khanal, 2010).

While research has gauged degrees of land underutilisation, it has not adequately explored the complex processes through which this occurs in specific localities. Despite widespread consensus that land abandonment and underutilisation are significant and warrant attention, there is no systematic research that demonstrates pathways that have led to this outcome. This study is an attempt to present a socio-environmental pathways approach to the study of land underutilisation, with a view to demonstrating how multiple factors, forces, and processes interact across scales driving land underutilisation in the hills of Nepal.

4. Research methodology and study sites

4.1. Methodology

The study focused on understanding how land underutilisation takes place, using a mix of qualitative and quantitative methods over a four-year period of action research between 2012 and 2015 undertaken by an interdisciplinary team of researchers in collaboration with the Nepalese Government and non-governmental organisations. The field research included a baseline survey in 2013, covering 111 and 106 respondents in Methinkot (Kavre district) and Nalma (Lamjung district) respectively. These were selected using simple random sampling method from among the total households of four Community Forest User Groups (CFUGs) in each of the study sites. In 2014, 2015, we considered the 111 and 106 households of the two sites as a population, and purposively selected 20 households (at Nalma) and 17 households (at Methinkot) for in-depth study of land underutilisation, considering diverse attributes of households with parcels of underutilised land, and also covering various wealth groups and locations in the village. The survey data were recorded and analysed using SPSS® Statistics Version 20.0. In addition to such strategies of household focussed data collection, various stakeholders involved in agriculture and rural development were interviewed during 2014–2015. Five focus group discussions (FGDs) were held with district and village level stakeholders in each district, along with repeated field visits and observations, and participatory land use mapping to collect data.

The participants in the focus group discussions and interviews comprised a mix of farmers (male and female) including new migrants to the locality (mainly in Methinkot, some families have moved in from remote parts of the district), local leaders including the members of CFUGs, local resource persons employed by development agencies, landowners, and sharecroppers. The UUL households in the CFUG were identified through FGDs.

Classification of agricultural land varies in Nepal from place to place, and a new official system of land use classification is currently being applied across the country.² We have used a popular and generic system of classification involving the following

¹ Articles 36 and 42 specify right to food for every citizen and ensures that every citizen have right to be protected against food scarcity that may cause threat to life; Article 36 (3) of constitution ensures that every citizen have right to food sovereignty as provided by law; Article 42 - right to social justice - includes provision on food.

² An earlier system of land classification was introduced in the Land Measurement Act, 1962, whose objective was to measure and classify land resources in Nepal for the better land use system. This act defines quality of lands into Abal (Class 1), Doyam (Class 2), Shim (Class 3) and Chahar (Class 4), in decreasing order of land quality.

categories: irrigated land or *khet*, rainfed upland or *bari*, and steep slope land used to grow thatch grasses or *kharbari*. We have also captured local variants of these general categories (such as irrigated land or *khet*, upland or *bari*, pasture or *kharbari* and so on) in order to arrive at more contextually grounded meanings and dynamics of land underutilisation. This classification has country-wide applicability and corresponds with more generic land capability classifications used in other country situations as well (Shah, n.d.).

To synthesise socio-environmental pathways behind land underutilisation, we developed causal diagrams for each case study site using Vensim[®] software. The relationships of among different factors and forces are shown by arrows with a positive (+) label indicating a positive influence of a *parent* variable to a *child* variable. This means that if the level of the 'parent variable' increases, the level of the 'child variable' also increases. The diagrams show the interconnectedness of the factors, which cut across multiple sectors of development and governance. Our aim was to show their direction, without aiming to quantify these relationships.

4.2. Study sites

The research reported here is part of a larger study, the EnLiFT Action Research Project,³ which has the aim of exploring food security and livelihoods opportunities in Nepal. The case study sites are Nalma Village Development Committee (VDC)⁴ in Lamjung District and Methinkot VDC in Kavre District (Fig. 2). The Lamjung case represents a typical ethnic community with a tradition of migration for foreign army service (11 persons employed from the village, employed in British and Indian armies participated in the study) whereas the Kavre case represents a site of change in livelihoods due to closer connectivity with Kathmandu and other neighbouring cities, following the construction of a national highway that passes through the Methinkot VDC. The two sites can be seen as representative of the mid-hill district contexts in relation to the underutilisation and abandonment of agricultural land (with Nalma representing a typical ethnic community and Methinkot representing a typical heterogeneous community). These sites also capture a variety of land use and abandonment contexts, including migration, local politics, the cultural background of the inhabitants, community livelihood strategies, and ecological diversity.

We use the term *study site* to mean the entire VDC selected for the purpose, while *study village* is used to refer to the area under CFUG within which more focused research was undertaken. Likewise, hamlets or *toles* are subsets of settlements within the CFUG being studied. We used CFUG as an institutional unit, and within each CFUG, we identified a single *tole* covering two wards of the VDC as an embedded case (for example *Shahutole* of Methinkot) whereas in the case of Nalma, a whole village covering four of the nine VDC wards were covered in the case.⁵ CFUGs have become a comparable, and common, local institution as they have proliferated in the hills of Nepal over the past several decades. CFUGs are considered resilient local institutions for the management of communal forest areas (Banjade and Timsina, 2005; McDougall et al., 2007; Ojha et al., 2008). As such, they have also become key platforms for farmers and landowners to come together and

discuss agriculture and land management issues and opportunities at the local level, hence making them an appropriate local institutional unit for our research.

The relevance of the two contrasting case study sites is demonstrated in Table 1, which presents key characteristics of the two sites. As mentioned earlier, Nalma represents a typical ethnic community in the hills of Nepal while Methinkot represents a typical heterogeneous farming community.

Nalma VDC lies to the north-west of Beshisahar, the headquarters of Lamjung district. It takes about 3 h by four-wheel drive vehicle to reach the village from Beshisahar. The access to Nalma is difficult in the rainy season because of the gravel road, which passes through the steep mountain landscape. An in-depth case study was conducted within the area of Langdi Hariyali CFUG with 164 households as members coming from the four wards of the Nalma VDC. The majority of the Gurung people are engaged in farming and livestock rearing while most Dalit (so-called untouchables) members are share-croppers, and some are involved in carpentry and metal works. All of the Dalits members interviewed (11 households) mentioned that they are unwilling to share the crop unless land owners offer more fertile, productive, and accessible land parcels. Among the Gurungs, there is a long tradition of joining the Indian and British armies. The majority of households are still engaged in some form of farming and incomes from cereal crop sales constitute about a third of household incomes.

As shown in Table 2 Nalma has a larger area of underutilised land (UUL) compared to Methinkot. A year before the EnLiFT research project began in 2013, a scoping study for the project conducted in the area identified approximately 34% land as UUL in the VDC (Paudel et al., 2012). Both *khet* and *bari* and - two of the main land types in the middle hills - are found under-utilized in Nalma (Fig. 3). EnLiFT field work showed that 70% of *khet* had been turned to UUL between 2003 and 2013. The average area of UUL per household was 14.1 *ropanis* (about two-thirds of a hectare) with a range from one to 28 *ropanis*. All of the 20 sampled households were found to have some of their *khet* land left underutilised. The baseline survey further showed that 29% of agriculture land was left fallow in the case study village, which included the area within Langdi Hariyali CFUG, one-third of it totally abandoned with no cultivation for over five years. There is an agro-ecological pattern to the distribution of UUL. Most of the land on the hill slopes currently receiving less rainfall was once active *khet*, has been turned into the UUL, while some of *khet* still being occupied for small tongues of land following water courses in gullies (see Table 3).

Methinkot VDC is located in the eastern part of Kavre district on the *hulaki* (postal) track linking Kathmandu with eastern districts, namely Okhaldhunga, Ramechhap, Khotang and Solukhumbu. Methinkot is ethnically highly heterogeneous comprising people of diverse caste and ethnicities - Brahmin, Chettri, Sarki, Newar, Kami, Tamang, Damai, Gharti and Bhujel. There are altogether 34 settlements in Methinkot. The site selected for the study is within SaPaRuPa CFUG, which manages 298 ha of forest. The study focused on SahuTole, which covers Wards 2 and 3. The area is accessible along seasonal roads and it is a 1 h walk to the nearby market town of Bhakunde Besi. Together, the two sites in Methinkot and Nalma VDCs capture a broad spectrum of variations in land underutilisation (see Table 2).

The area of UUL per household is nearly three times greater in Nalma than in Methinkot. Most UUL parcels in Methinkot are very close to roads. Almost all UUL in Nalma are within 15 min' walk or less to the house of the owner, whereas UUL parcels in Methinkot are 30–60 min' walk away. UUL parcels in Methinkot are generally on more moderate slopes than in Nalma where about 61% of UUL parcels are on land with more than 40% slope. These differences are partly because of the physiographic characteristics of the two sites.

³ The name of the Project is "Enhancing Livelihoods and Food Security and from Agroforestry and Community Forestry in Nepal" (FST/2011/076). It is supported by Australian Center for Agricultural Research and is implemented in collaboration with the Government of Nepal.

⁴ During our work both sites were VDC but now Nalma lies on Basishahar municipality ward no 14/15 and Methinkot lies on Kashikhanda municipality ward number 4.

⁵ Ward numbers 6, 7, 9 and 9 of Nalma and 2 and 3 Methinkot VDC were covered in the study.

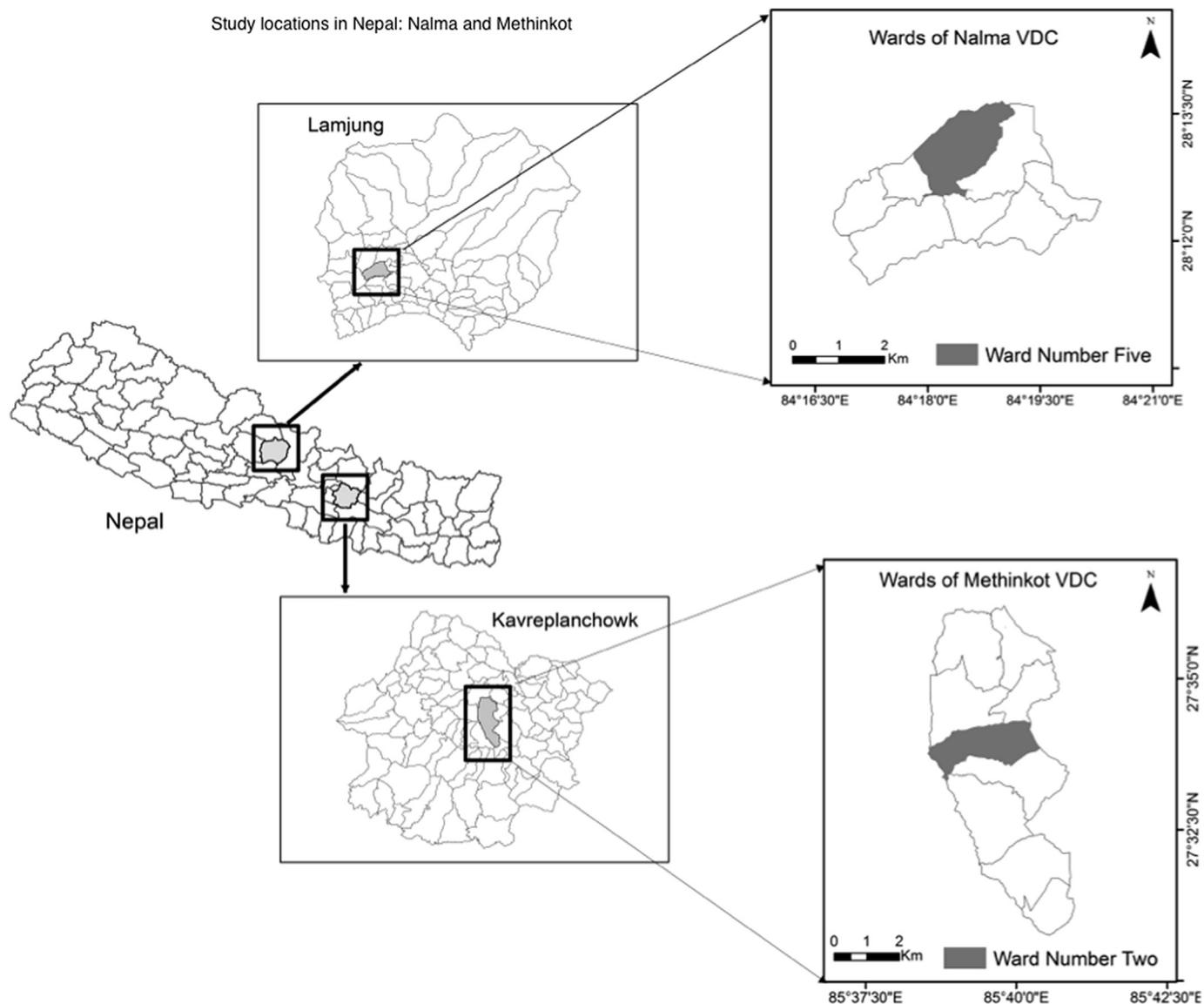


Fig. 2. Location of case study sites.

Table 1
Key characteristics of Nalma and Methinkot

Characteristics	Methinkot	Nalma
District	Kavre (east of Kathmandu)	Lamjung (West of Kathmandu)
Elevation range	820–1520 masl	920–1700 masl
Accessibility – road access	Connected to a gravel road, Close to a national highway	Connected to a gravel road
Major socio-economic groups	Mix of Chettri and Tamang	Gurung in the majority, and Dalits
VDC or municipality	VDC	VDC
Land area (km ²)	21.4	15.8
Total population in the VDC	1779	4721
Population density (persons per square kilometre) based on 2011 Census	221	113
Migration (percentage of households with at least one person overseas) in 2014	39	60
Average land holding (ropani**)	12.1	18.1
Baseline survey- sample size	111	106

Notes: ** 1 Ropani = 508.72 m² masl: meter above sea level VDC: Village Development Committee.

Source: CBS (2013), authors' field work.

Rapid and participatory assessment shows that soil quality of the UUL parcels in Nalma is generally of moderate quality, whereas most UUL parcels in Methinkot are of poor quality. Interestingly, UUL parcels are in almost all faces of the hills (aspect), which means

across all soil moisture regimes from dry (on the south-west facing slope) to generally moist (north-facing slope). In Methinkot mostly *bari* and *kharbari* lands were found to be underutilized, with *bari* alone amounting to 28% of agriculture land in the case study village

Table 2
Socioeconomic profile of the baseline survey respondents (Nalma (n = 111) and Mithinkot (n = 106).

Socio-economic attribute	Methinkot	Nalma
Age of household head (average, years)	53.3	56.7
Sex of household head (frequency)		
Male	98	92
Female	13	14
Educational attainment of household head (frequency)		
Illiterate	33	22
Higher secondary (10 + 2 or less)	36	3
Bachelor Degree and above	1	0
Agriculture as the main occupation of household head (frequency)	92	64
Number of household members (average, persons)	5.98	6.11
Households with member working overseas Proportion of households	43 Add in proportions	64
Annual household income (average, NRs)	226, 680	135,996
Livestock holding (average, animal unit)	2.35	4.37
Household landholdings (average, hectare)	0.62	1.50

Source: field survey. Note: In 2015, NRS 100 was equivalent to USD 1.

Table 3
Comparative overview of land underutilisation characteristics in the two study sites.

UUL parcel geospatial characteristics	Methinkot	Nalma
Number of UUL parcels in case study Wards	38	61
Average area of UUL per household (ha)	0.27	0.72
Average area of UUL per parcel (ha)	0.11	0.26
Frequency of parcels by proximate distance to house (walking time: minutes)		
0–15	10	60
15–30	2	1
30–60	26	0
Frequency of parcels by proximate distance to road (walking time: minutes)		
0–15	37	59
15–30	1	2
Frequency of parcels by slope category		
0–3% (level or nearly level)	0	0
3–15% (gently sloping)	12	1
15–40% (moderate steep)	26	23
40–60% (steep)	0	27
60–80% (very steep)	0	8
above 80% (extremely steep)	0	2
Frequency of parcels by aspect category		
East	3	0
North	0	14
Northeast	10	1
Northwest	7	41
South	5	0
Southeast	1	0
Southwest	5	0
West	7	5
Frequency of parcels by soil quality category		
Good	6	0
Moderate	1	55
Poor	31	6

Source: authors' field survey

(see Fig. 4 for the distribution of underutilized land). The large majority of this land is *bari* and much of it became underutilised during the decade of the Maoist insurgency (1996–2006), with around half being left unused for at least the last ten years. In the next two sections, we analyse pathways leading to land underutilisation in the two study sites (see Fig. 5).

5. Land underutilisation in the study sites

5.1. Land underutilisation pathways in Nalma

Based on the data gathered in 2013–2016, the pattern of land underutilisation is shown in Fig. 3. No single causal chain was discernible to explain land underutilisation/abandonment in Nalma. Yet, intersecting with the complex pathways of land

underutilisation are three key shaping forces, namely a) changing forms of economic and cultural cooperation within the community, b) migration for off farm employment, and c) growing insecurity of land ownership, all of which together exert varying degrees of institutional, discursive and material influence on the conduct of agrarian actors, as they interact in the socio-environmental pathways.

The first major force driving land use decision-making, and consequently the underutilisation of agricultural land in Nalma, is an emerging dissonance in the traditional cultural and economic relationships between ethnic Gurung groups and Dalit households. The village has nearly twice the number of Gurung households with larger land holdings (92), as compared to Dalit households with no or small land holdings (49), using the definition of large landholder with 2 ha or larger land parcel, and small landholder with 0.5 ha or smaller land parcel (CBS, 2011). As Gurung youths have joined the British and Indian armies, there has always been a demand for agricultural labour in the village. This out-migration created some opportunities for Dalit youths in the village. With small landholdings, Dalits used to seek out share cropping opportunities with Gurung families. But in recent years, Dalits have shifted towards skilled labour such as blacksmithing, carpentry and masonry as their major livelihoods. Dalits also previously worked as *Haliya* (ploughmen) and *Gothalas* (cattle herders) for Gurung families, as a result of which Gurung households were able to cultivate their land. With Dalits moving to off-farm opportunities, Gurung families have faced growing difficulties in securing the labour to cultivate their farmland.

The pressures on Gurung households to cultivate their farmland, and the alternative livelihood activities that are available to Dalits, have meant considerable adaptation and innovation in local socio-cultural norms and systems, with ramifications for land use and, in turn, the emergence of UUL. Traditional sharecropping systems have, for example, become harder to sustain. Dalits are no longer willing to accept marginal lands that are far away from the settlement and are prone to wildlife and flood damage. Also the proportion of produce shared with the land-owner has declined, and in some cases, land is offered without any requirement that a portion is shared with the Gurung landowner. The emerging lack of interest in farming lies in the high costs of production, declining soil fertility, lack of manure, along with the fact that Dalits can earn income more easily – and more consistently – from non-farm activities. In addition, Dalit young men (below 30) are also increasingly leaving the village for overseas employment. The causal pathways are shown in schematic form in Fig. 4.

A second key force in the pathways towards declining use of land is the longstanding – but expanding – tradition of Gurung

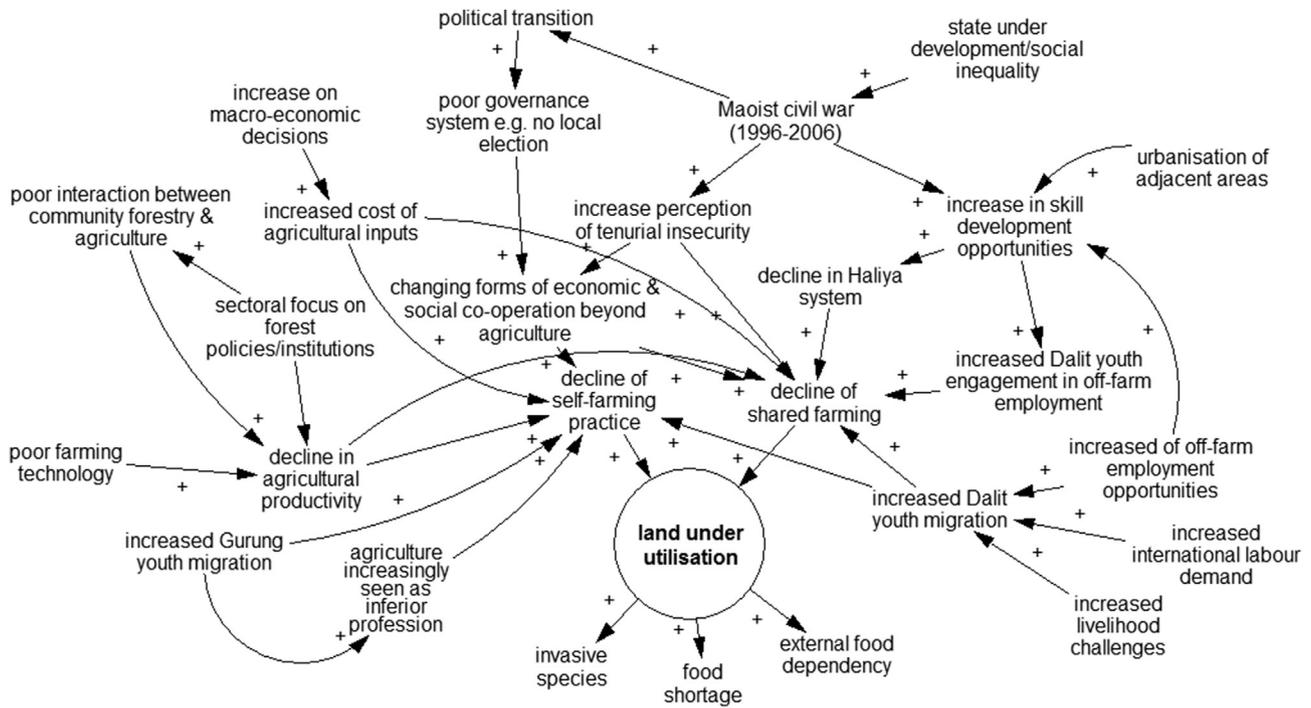


Fig. 3. Distribution of underutilised land parcels in Nalma.

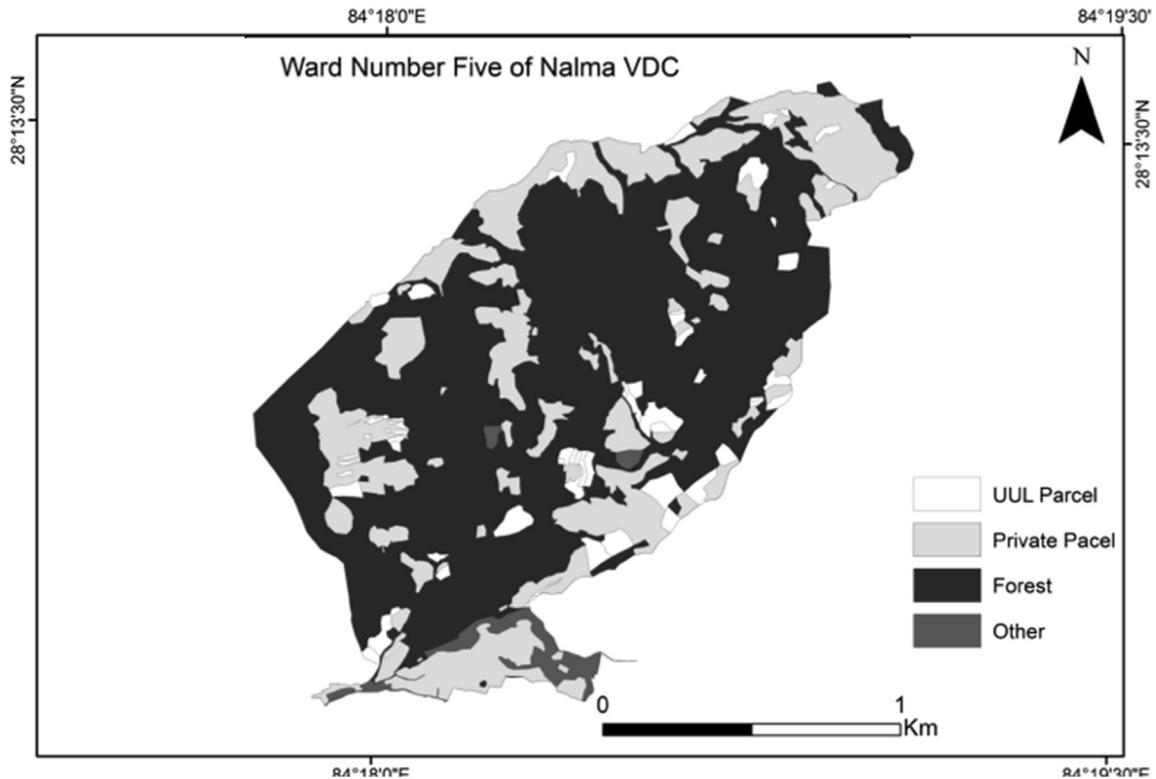


Fig. 4. Land underutilisaiton pathways in Nalma.

youth out-migration for jobs outside of the country. This practice has widened in terms of destination and forms of employment, beyond traditional *Lahures* (military service) to Britain and India – a practice, which has been confined mainly to Gurrung. This has forced Gurung families to either depend upon hired labour, or to

provide the land to share croppers, or to leave it uncultivated. Locals claimed that the phenomenon of youth migration for overseas job as well as in-country employment had accelerated over decade prior to the fieldwork. The baseline survey showed that of 106 sampled households, 60 reported that at least one household

own the land) (Adhikari, 2008).

5.2. Land underutilisation pathways in Methinkot

The spatial distribution of land underutilisation in Methinkot is presented in Fig. 5. While there are similarities in the shaping factors in Methinkot and Nalma, there are also differences that make their separate discussion necessary. Three main forces driving the land underutilisation pathways in Methinkot were identified: migration, water scarcity, and tenurial insecurity.

First, people are migrating from higher to lower altitude areas of this VDC, to take advantage of road and irrigation access and land productivity in the floor of the valley, compared to the hill slopes. This intra-VDC migration began in the early 1990s but has slowly accelerated over the last decade and has been a major factor behind land underutilisation. While better access to irrigation is a major attraction of lowland fields, in the past people preferred to live in upland settlements because the lowlands (*besi*) were plagued with malaria. During FGDs, local people explained that higher land productivity was not the only attraction of the lowlands; the lowlands also offered easier road and market access, more opportunities for starting small businesses, and gave better access to other related services. This was an important reason behind the decline of farming activities in upper area, leading to land underutilisation.

Another form of migration in Methinkot is youth migration to cities in search of alternative employment opportunities, mainly for brick kiln jobs, mason and porter in the neighbouring urban areas. A young man explained: “we are not interested in farming as it is a hard and difficult job. We want to look for other jobs in office or industry”.⁶ The migration of young people has created a household agricultural labour deficit, limiting the capacity of households to farm and leading to less fertile land being left underutilised.

Second, growing water insecurity has encouraged people to leave land underutilised (see Fig. 6 for the causal pathways). Respondents claimed there was a progressive drying of spring water sources in Methinkot due to drought. People were also experiencing changes in the pattern of rainfall. In 2008, most rice fields remained uncultivated because they did not receive any monsoon rain and in 2009 the planting of rice was done only in mid-July to mid-August due to the delay of the monsoon. Previously there used to be ample water resources, in upland areas, but now the situation is deteriorating and even areas that formerly had abundant water were facing conditions of scarcity. In the past, the annual cropping cycle encompassed three crops, which locals said have now been replaced by one crop each year in the uplands due to the scarcity of water, compounded by lack of labour and manure.

The third force driving land underutilisation pathways was land tenure insecurity, resulting from the Maoist conflict of the recent past and the confusing policy signals coming from Kathmandu about share cropping. The households within SaPaRuPa CFUG included 125 Brahmins, 48 Newars, 71 Dalits and 12 Janajatis. The EnLiFT survey revealed that Brahmin households owned most of the UUL, and most of them were absentee landowners. A Brahmin representative from the study area stated that he was reluctant to offer land to sharecroppers and hesitated even to provide land to the same individual for more than one year because of a fear that it might be claimed by the sharecropper.⁷ The survey estimated that half of UUL owners were reluctant to enter in any land related agreements for this reason.

In their turn, Dalit respondents revealed that they were not interested in share cropping as the returns were simply not

sufficiently attractive. Some Dalits from Sansari Tole indicated that their sons would rather go to Kathmandu from November/December to April/May for brick making. Brick making is paid on a piece-work basis, and energetic young men can make much more money than they could as an agricultural labourer. This competition for labour has pushed up agricultural labour wages, creating yet another disincentive to using land.

6. Discussion: socio-environmental pathways of land underutilisation

6.1. Beyond drivers and the relevance of socio-environmental pathway lens

The two case studies and national level data show that land underutilisation has become a far from exceptional phenomenon, in line with the findings of a few other studies presented in Section Three. The reasons are multiple, and in this section, we advance a discussion into the socio-environmental pathways and consequences of this phenomenon, and also explore important implications of land underutilisation in Nepal. We advance the discussion towards reinforcing the need for a nuanced and dynamic approach to understanding land underutilisation rather than isolating a few causal factors from the context of influence. The evidence presented here shows that it is not only always sensible to ask what factors cause land underutilisation; rather, attention should also be focused on how such factors emerge and force land underutilisation (in Section Two), and how these factors become interlinked through material, institutional and discursive processes underpinning the pathways or trajectories of land underutilisation (Munroe et al., 2013). It is therefore necessary to go back to our key questions: how is land abandonment taking place, and under what circumstances? One point that becomes clear from this study is that the tendency to identify ‘drivers’ of agricultural land abandonment overemphasises the contribution of one dominant factor, thus hiding from view other interconnected factors that operate at different points in the causal system and at different stages in the pathway towards UUL.

We started with the enquiry into the dynamics of the land underutilisation phenomenon, focussing on the questions of how it happens and why it happens, with an emphasis on the logics of underutilisation. We presumed that there are important local and national stories to tell regarding land abandonment and underutilisation in Nepal. The two cases in different localities in Nepal – one east of the capital city of Kathmandu and the other to the west – present different contexts and dynamics of land underutilisation. Interestingly, both cases exhibit a common pattern, in that there are a range of bio-physical factors, institutional formations and discursive forces, driving the process of land underutilisation (a synthesised view of the land underutilisation pathways is presented in Fig. 7). The actual factors and forces are different in the two cases, but the way they operate and map onto a complex pathway is similar. This commonality establishes the relevance of a pathway approach to analysing land underutilisation.

The way agricultural lands are being under-utilised in Nepal’s hill regions demonstrates a stark contrast from another related but contrary phenomenon of land grabbing, that is common in the contemporary developing world (Vandergeten et al., 2016). For instance, the cases of displacement and dispossession in Bangladesh (Feldman and Geisler, 2012) are just opposite to Nepal’s case of UUL formation. Likewise, in Northern Thailand, the growing market for agricultural commodities has encouraged farmers to intensify the land use (Vanwambeke et al., 2007). This symbolises a process of disenchantment with the long history of agricultural civilisation, triggered by a number of push and pull factors. The

⁶ Field work in Nalma, June 2013.

⁷ Field work in Methinkot, 26th August, 2013.

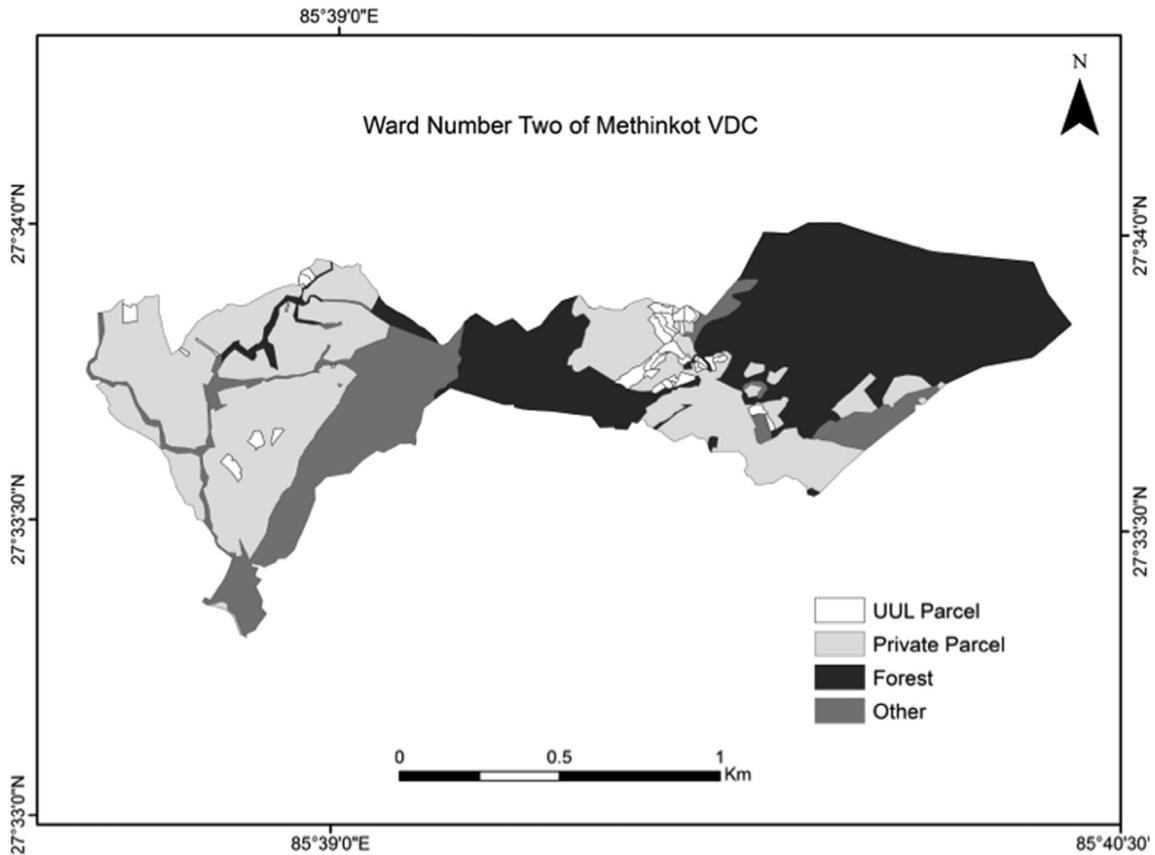


Fig. 6. Land underutilisation pathways in Methinkot.

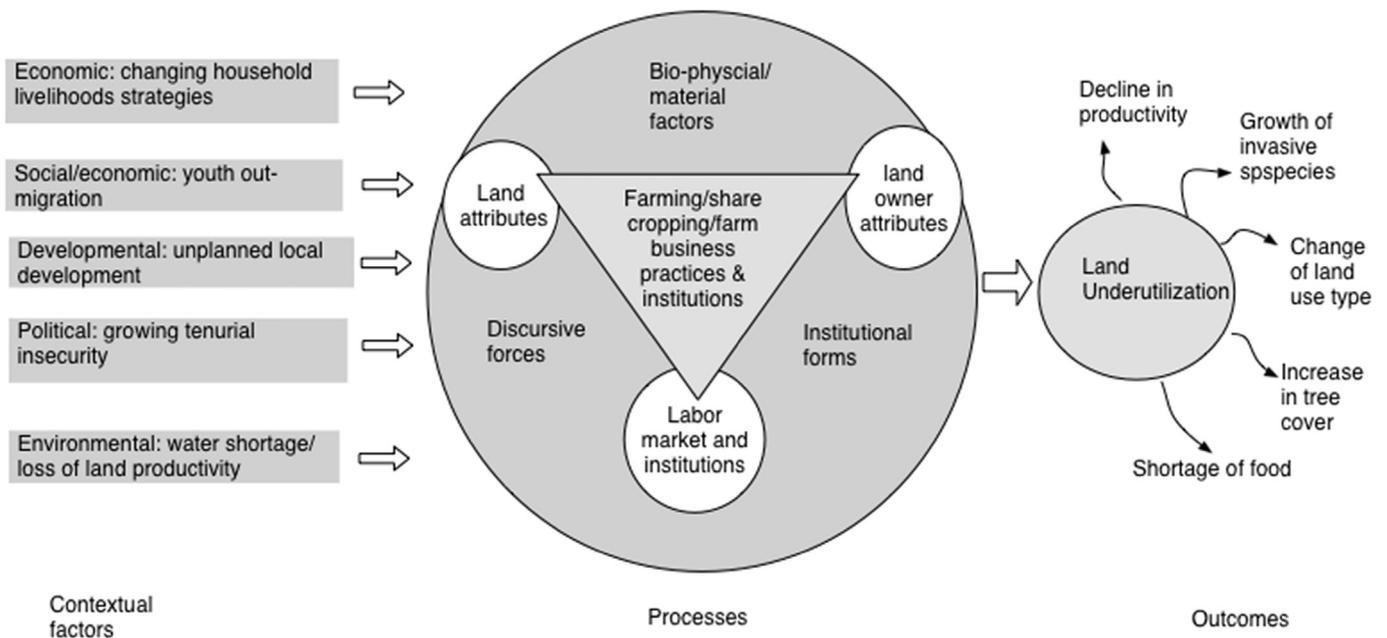


Fig. 7. Socio-environmental pathways of land underutilisation in the Nepal Hills: A synoptic view.

push factors as outlined earlier include – the lack of opportunities to earn cash incomes in the rural hinterland and growing land tenurial insecurity for share-cropping. The pull factors include growing employment opportunities for youth abroad.

6.2. Key forces powering the land underutilisation pathways

Considering at the pathways of land underutilisation in the two cases, five “forces-in-context” have been found as crucial in shaping

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the land underutilisation pathways: a) household level economic choice in the changing political economy, b) youth out-migration driven by a host of pull and push factors, c) a growing sense of tenurial insecurity, d) unplanned local development, and e) increasing environmental stress related to water (schematically presented in Fig. 7). To reiterate, these ‘forces-in-context’ are not isolated drivers, but are more akin to “milestones” in the dynamic socio-environmental pathways of land underutilisation. Below we discuss how these forces operate inside and alongside the pathways. Here we do not aim to discuss details of pathways but to highlight these hybrid forces – representing bio-physical, institutional and discursive aspects (as defined in Section Two).

At the household level, *economic choice* plays a key role in shaping decisions about land use (or no land use), primarily through institutional effects on land management, as families own almost all the agricultural land in the Nepal hills as private property. Land-owning as well as traditional share cropping families are facing unprecedented change in the economic context of their livelihoods. As rapidly expanding road networks connect rural areas with cities, and as people secure increasing access to off-farm livelihood opportunities, rural families are facing new economic choices, often involving better returns from non-agricultural livelihood than from traditional agricultural pursuits. Evidence of the effect of such household level economic calculations in land management decisions is visible in both the cases. Although such economic calculations may be important in determining land use decisions, it is the social value of the land ownership that determines the general absence of land sales (e.g. Walther, 1986); some 80% of farmers interviewed were not willing to sell their land, due to the prestige it bestows and the security it is seen to deliver.

Another prominent force shaping household economic choice with regard to land-based livelihoods versus other options is the availability of, and access to, job opportunities abroad (e.g. Benayas et al., 2007). Youth *outmigration* has become a key causal force in the land underutilisation pathway. Youth migration is linked not only to the need for cash incomes, but also to aspirational factors where moving out of an ‘underdeveloped’ region is seen as a symbol of social status, repeated time-and-again in our focus group discussions with youths. This change in livelihood strategy is Nepal-wide. The two case studies reveal at least four different patterns of youth migration: Gurung youths (only males) from Nalma migrating to the UK and India for military service; unskilled youths migrating to the Middle East or Malaysia for menial labouring jobs (mostly male); seasonable migration of youths to nearby urban centres to work in factories (mostly male but also some females) following the expansion of brick factories around Kathmandu; permanent migration from rural to urban areas (as in the case of Methinkot, where families have moved from the upland areas to lower and urbanising areas). Migration contributes to land underutilisation in two ways; first, due to its direct effect on the supply of labour for farming and, second, due to the indirect effect of remittances in providing farmers with the option of moving out of agriculture.

We found UUL owners’ decision to leave land underutilised also being influenced by the growing sense of *tenurial insecurity* in the aftermath of the Maoist insurgency where the articulation of land rights was prominent. The effect of this force enacted through both institutional (e.g. land owners getting inclined to discontinue share cropping practices) and discursive (such as the political debate around tenancy rights de-incentivising landowners to engage share croppers) influences. The structure and stability of land ownership is a widely recognised factor in land management (López-Iglesias et al., 2013; Walther, 1986). Laue and Arima (2016) found that land ownership type also influences the likelihood of land abandonment as settlements based on communal property rights have

higher rates of land abandonment than settlements with private lots. In Nepal’s case, the most visible effect of underlying tenurial insecurity is found in specific traditional institutions around sharecropping. In the changing political circumstances, landowners have become increasingly reluctant to offer UUL parcels for sharecropping (despite the clear legal arrangement for land rights) for fear of losing control over the land. In the case of Nalma, Dalits have been denied sharecropping right to lands parcels to which previously they had access. The current situation is that landowners fear their land may be requisitioned while at the same time policy makers have failed to institute measures to ensure land rights for the landless and land poor. The result is land underutilisation in the context of land scarcity and growing food insecurity.

The wider project of modernisation in Nepal has also consistently failed in terms of planning (Panday, 2012; Wildavsky, 1972). This resonates with Rigg’s *Unplanned development* (Rigg, 2012) in which he highlights the “gaps between planning designs and planning experiences, between what is seen and measured and what ultimately proves to be important, and between expectations and outcomes” (p. 3). Nepal recently launched (2016) its 14th Periodic Plan, aiming to foster modern development, but in practice there exists a yawning disconnect between planning designs and actual development practice. The state, in its planning pronouncements, has always proclaimed the value of farming and agriculture, but has hardly considered complex pathways of land underutilisation involving the dynamics of migration, economic inter-linkages, infrastructure development and processes of modernisation, all of which have contributed to the marginalisation of farming as an activity and agriculture as a sector. Besides, as Bernstein argues in the context of Global South, there is still a limited attention to the interaction between rurality and urbanisation that shaped rural way of life (Bernstein, 1992: p7).

Environmental triggers are also at play, given the mountain related vulnerability to climate change and geomorphic processes (Shrestha and Aryal, 2011). Based on a meta-analytic review of studies covering 10 countries around the world, Benayas et al. (2007) reported that out of the seven key drivers of land abandonment identified, the four most important were of environmental origin (in order of decreasing importance: biodiversity loss, increase of fire frequency and intensity, soil erosion and desertification, loss of cultural and/or aesthetic values, reduction of landscape diversity, and reduction of water provision). The Nepal Himalaya is particularly prone to the effects of climate change (Xu et al., 2009), with the hills of Nepal already facing erratic rainfall and resulting water stress. What is important here is to recognize the site-specific responses to the water challenge. The two case studies show different ways in which communities respond to water stress in farming. In Nalma, even the irrigated *khet* lands have been abandoned, as landowners face labour shortage and also have alternative income sources from remittance and pensions. In Methinkot, households have moved from the hills to take advantage of better environmental conditions on the lower lands. In both sites, a major portion (nearly 70%) of the received remittance in poor households is used for basic necessities and to repay the loan taken (for different purposes). But among a few well off households remittance is used to acquire assets such as land in urban accessible areas, rebuild/redecorate the house and spend on consumer goods and quality education of the children. Surprisingly, no evidence of remittance being spent on farm regeneration was found during our field work, suggesting that people do not have intention to return to their place when they have financial capacity to invest. This finding contradicts with that of Adhikari and Hobley (2011) who found in the case of Khotang women from poor and medium households investing savings from the remittance into land

purchase among other priorities such as education. This suggests that the link between remittance and agriculture is context specific, as people make economic choices in their specific situation of livelihoods and food security.

6.3. Consequences of land underutilisation

Land underutilisation has profound social, economic and environmental impacts. The consequences of land underutilisation can be seen at two levels. At local level, there has been a general decrease in local food availability and increased dependency on outside food source. Another major effect is on the decline of traditional institutions, but this could be a positive change as several of the traditional institutions are also seen as exclusionary and inequitable. At the national level, due to low local food production, the country is importing basic food grains worth billions of Nepalese Rupees.⁸

In Nalma, for example, the underutilisation of land has had a range of knock-on effects, demonstrating the inter-linkages between different components of the farming system and wider society. Local people often claim that there has been a general decline in food availability, leading to increased dependence on imported, industrially processed food items such as noodles, bottled pickles and imported snacks. Environmental effects have also become visible: underutilised lands have been colonized by invasive plant species locally known as *gandhejhar*. The underutilised *bari* land previously cultivated with staple crops like maize and millet is being transformed into *kharbaris* or rain-fed terraces which are being left to be invaded by dense grass, shrubs and trees. As a result, gradually, an underutilized land parcel falls into more permanent disuse, and what may have started as simply 'idle' land, becomes abandoned.

Land underutilisation is closely linked to a process of 'feminisation' of rural society (Tamang et al., 2014). Male family members migrate for foreign employment, leaving women, children, and elderly people at home – and part of the reason why they do so, as mentioned earlier, is that agriculture and farming are no longer economically competitive for livelihoods (Paudel et al., 2014). As males out-migrate, women take up roles and responsibilities at household (including any agriculture work) and community levels (Gartaula et al., 2010; Lastarria-Cornhiel, 2006; Maharjan et al., 2013; Tamang et al., 2014). Given the increased workload, they are forced either to adopt less intensive farming practices or to abandon their lands (Adhikari and Hobley, 2011; Paudel et al., 2012; Tamang, 2011). Some studies have gone so far as to suggest that, as a consequence, poor and marginalised communities in inaccessible areas are increasingly facing hunger and under-nutrition (FAO, 2010a; Paudel et al., 2010).

Land underutilisation does not impact the society evenly. What is evident in these cases is the emergence of an 'individual-society paradox' – that while land abandonment may lead to food shortages at the regional/subnational and national levels, some individual households who abandon their land may be *more* food secure, as they have other means of livelihood and income sources. Rather, food insecurity hits poorer segments of local society who may not have access to land or to work because of the processes described here, depriving them of their livelihood and their traditional entitlements. Moreover, our case studies suggest that abandoned land parcels are not easily accessible to the land poor

families who are still living in the locality. As Sunam and McCarthy (2016) have shown, in Nepal the effect of migration on poverty and land access is very complex, with contradictory results of the poor getting access to land in some cases and with results of even more entrenched dispossession in other cases. This highlights the importance of assessing the linkages to trace the fortunes of those who may be touched by UUL.

Clearly, land underutilisation is happening in the two case studies through various socio-environmental pathways, propelled by a mix of material forces such as climatic stress, changing institutional forms such as deterioration of sharing cropping, and discursive forces such as the perception of weakening tenurial security in the aftermath of Maoist rebellion. While there is a national level dynamics common to both the study sites, the actual mix of the three categories of forces that are at play vary in the two sites, thus demonstrating unique socio-environmental pathways driving land underutilisation in two localities. What is found common in both the cases is the underlying nature of socio-environmental pathway itself, comprising the sequential interplay of the three categories of forces whose analysis can yield a more dynamic and realistic explanation of the change leading to land underutilisation. Depending on the state of the forces propelling the socio-environmental pathways, the actual consequences on land underutilisation, and the wider reality of and land and society relations, could be different. This highlights the need for an empirically grounded and theoretically informed approach to arrive at a meaningful understanding of changing agrarian dynamics in a region.

Despite the scale and importance of land underutilisation in Nepal, policy responses have remained limited. A considerable body of literature links the abandonment of land to unfavourable politics and policies of the state and global political economy. For instance, Mollett (2016) argues that government policies, instead of encouraging the better use of land by farmers, promote the process of grabbing which are then naturalised through development practices that are underpinned by ongoing racial hierarchies. Similarly, Meyfroidt et al. (2016) argue that political transition leads to land abandonment. Local people may discuss the matter with some concern, but the Nepal government is particularly ill-prepared to deal with a matter that is inter-sectoral in nature, crossing multiple policy areas and institutional domains. Questions over food security, agriculture and land management have been side-lined in the national political discourse, which is dominated by the agenda of peace building, constitution making and state restructuring. More importantly, the collapse of local level government amidst national political transition means that there is no political space for planning and proactive action at the local level, closer to the domain of local people and communities (Byrne and Shrestha, 2014).

7. Conclusion

The research presented in this paper started with a simple question: why is land underutilisation growing in Nepal despite looming food insecurity? We began by gathering evidence on the extent of land that is underutilised nationally and in the specific sites. Data over four years from field research in two districts of the middle hills of Nepal show that about half of the arable land (both irrigated and rain-fed combined) in the two study sites have gone underutilised. Given the scale and nature of youth outmigration and underutilisation of agricultural land, one can speculate an era of disenchantment with agrarian civilisation of many thousand years. Yet what remains little known is how exactly this is happening in the Nepal hills context.

Much of the research to date takes either a deterministic

⁸ Soptlight magazine cites a government report which says Nepal imported agroproducts worth NRS 100 billion in 2014 (1 USD = Rs 90 that year), website: <http://www.soptlightnepal.com/News/Article/Nepal-imports-agriculture-products-over-hundred-b> (visited April 28, 2017).

approach to explain land underutilisation and the agrarian change using economic lens, or present ethnographic accounts of land use change, often as the direct effect of migration. Land use and abandonment are integral part of wider agrarian change, and any attempt to understand this must take into account both social and environmental dynamics across multiple scales. In this paper, we have advanced a socio-environmental pathways approach to understand the phenomenon of land underutilisation in the context of Nepal hills. Such pathways emerge through complex, non-linear, cross-scalar and stochastic interface among a multitude of material, institutional, and discursive forces, which can be understood through the combined lens of Bourdieu's social field (as applied in Ojha et al., 2016a). Under this approach, as we have shown, it would be naïve to attribute one prominent driver to explain the land underutilisation outcomes - for example, it problematic to presume that youth migration is the sole cause of land underutilisation. We have highlighted through the case studies and the national level review, the operation of complex, socio-environmental pathways involving material (or environmental), institutional and discursive forces which propel land underutilisation as an important form of contemporary agrarian change in Nepal. We have also demonstrated that the story has multi-scalar dimensions – covering local, national and global forces, as well as cross-sectoral roots, covering as diverse domains as culture, economy, political movements and environmental stresses.

In this paper, we have documented in-depth dynamics of land underutilisation using the socio-environmental pathways lens. Our interviews with landowners revealed that they no longer find it economically worthwhile to invest in farm cultivation, especially when they are facing labour shortages due to the out-migration of their economically active family members. Leasing out the land to others – a practice that existed in one of the study sites prior to the Maoist armed conflict – has become unattractive, not only because of a sense of increasing tenurial insecurity, but also because land-poor farmers have moved out of the village to find off-farm jobs providing better returns. Clearly, everyone is making new decisions in the light of unfolding opportunities (e.g. better jobs outside), or under impinging constraints (e.g. land owners leaving the land fallow short of labour), whilst the government has remained unstable and non-responsive to the complex dynamics of agrarian change and migration. Due to civil unrest and the politics of transition, the policy system has remained silent - at best, a passive witness to the profound change occurring in rural landscapes in Nepal.

This study highlights at least four important insights into policy reforms. First, the nature of the land underutilisation pathways – involving multi-scalar (involving local, national and global forces) and cross-sectoral (covering social, environmental, political and cultural) processes - means that no single and sectoral policy intervention can bring the land back to normal cultivation. Second, in the wider policy question of agrarian development and migration, it is even debatable whether the solution is to bring every uncultivated parcel of land back to cultivation. Specific patches of underutilised lands are only a symptom of larger social dynamics and policy failures, and such land parcels are only tiny spots of problem in the larger nexus of rurality, migration and development. Given this, a possible entry point for tackling the problem could be creating context specific institutional spaces where communities, political leaders and researchers can bring voice, political visions and evidence to foster meaningful dialogue and forward looking planning of changing landscapes. The demand for stronger local governments and the creation of provincial level governance in Nepal could generate more decentralised spaces for the mapping and articulation of the problem and possible solutions.

Third, and more widely, the study highlights the difficulties of

pinning down the intersections between migration and development, let alone shaping policies that are sensitive to these indeterminacies. While out-migration may lead to reductions in agricultural output and a loss of *in situ* production and associated livelihoods, and therefore a decline in food security, it is also evident that young people are not being capricious in leaving their homes. They are generating income, accumulating human capital and, they often hope, opening up the *possibility* of future upward social and economic mobility. Policies must not narrowly focus on driving the youth back home, but move the society forward by valuing the dreams of people who want to come out of difficult and marginally productive mountain terrain for more prosperous life elsewhere.

Finally, any policy response itself should be grounded in the understanding of varied socio-environmental pathways that lead to land underutilisation in different localities. This requires encouraging interdisciplinary, action oriented and participatory research to explore context-specific socio-technical options that match ecology, local economy, and culture. Given the failure of the past four decades of 'land reform', what Nepal needs now is critical research and a politics that genuinely fosters a fresh approach to understand and manage the dynamic link between land and the society.

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