

# Remittances, investment and agrarian transition: Comparative lessons from China and South Asia

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## Executive summary

Recent decades have seen an unprecedented rise in out-migration across rural South and East Asia, brought about by the combined pressures of climate change, water stress and rising living costs, as well as the changed aspirations of the younger generation. However, unlike the historical labour migrations of industrial revolution Europe which represented a 'break' from the land, today's labour migration is largely cyclical. Migrants often retain binding links to their land and the agrarian economy, with certain family members leaving and others staying behind to manage the farm, in patterns often structured by gender and age. Unravelling the dynamics of the connection between migrants and the agricultural and natural resource based economy at home is critical for rural development planning today, yet policy concern in this field has remained relatively limited.

Migration creates new stresses for agriculture, particularly with regards to labour scarcity and the breakdown in community institutions such as irrigation systems. There is however, also potential for migrant remittances, knowledge and skills to be harnessed to foster agrarian transformation. This paper argues nevertheless that this feedback loop from migration, and its potential to realise change, is intricately connected to national development trajectories and class dynamics on the ground. This is illustrated by case studies from three regions which are characterized by small and marginal farms and an unprecedented out-migration of labour, yet are marked by quite different social and institutional contexts. The first case is from the Eastern Gangetic Plains of lowland Nepal and India's Bihar state, a region long characterized by severe inequality in the distribution of land and assets, a rigid caste structure and limited presence of industry and non-farm employment. A second case is from the eastern Nepali hill, a region of small and marginal farms, with high dependence on remittances. In both sites, labour movement is predominantly to Indian cities and the Persian Gulf. The third case is a set of villages across rural South and Central China, a region characterized by small yet highly productive farms, where migration is predominantly to the factories of the Pearl River Delta and other coastal conurbations.

This comparative study has combined two large surveys with a series of household case study interviews and participatory group activities to understand the changes in agriculture post-migration in terms of resource allocation, inter- and intra-household relations, and livelihood trajectories. In the Gangetic Plains study site a participatory video initiative was also used to document the life stories of farmers experiencing migration induced demographic change. This paper will be presented through a series of household and village case studies, including video clips.

In China, the relationship between agrarian change and migration is dynamic. To cope with labour scarcity, remittances are invested into labour saving machinery, of particular utility to the older generation who are managing the land. There has also been a shift to profitable and less labour intensive cash crops. However, this has been supported by a rapidly industrialising economy, and unprecedented demand for farm products from industry and urban consumers, which ensures returns on investment.

In the Nepal and India case study, although the remittances as a proportion of cash income is far higher than in China, there are huge constraints which impede the reinvestment of migrant cash or resources on the land – and most remittances are used for consumption and debt servicing. In contrast to the relatively equitable agrarian structure in rural China, landlordism and severe inequality, combined with weak urban demand and a poor terms of trade, make investments of remittances in the land unprofitable and risky. Investment often depends on one's position in the agrarian structure and farmers' capacity to bear risk. Coping with labour scarcity is also a challenge given the high prohibitively high costs of mechanization or hiring of outside labour.

In all three sites, it is shown how the investment of remittances in agriculture and incentives for stay behind populations to harness the ‘positive’ outcomes of migration is embedded within a larger political economic context. This has far reaching implications for the agricultural sector.

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## Introduction

Migration is one of the most challenging policy issues facing the world in the 21<sup>st</sup> century. According to International Organization of Migration, 244 million people live outside their country of birth worldwide as of 2015 – a figure which has risen 41% in 15 years. There are also an estimated 740 million internal migrants (FAO, 2012), a group which is far greater, whose importance is often overlooked (Castaldo et al., 2012). While there is a vast research and policy interest in the migration flows themselves and migrants’ interaction with host communities, there is an emerging interest on its impact in the sending communities. In developing countries, remittances are estimated to have risen from 29 billion in 1990 to over \$441 billion in 2015 – close to three times what is received in development aid.

A large number of macro level studies have pointed to a drop in the levels of poverty due to remittance in flows (Adams and Page, 2005, Ratha, 2013, Giuliano and Ruiz-Arranz, 2009). Studies from the grassroots however, have shown that migration can also have complex outcomes, particularly on the agrarian livelihoods for those who stay behind. For example, research has shown how migration can transform gender relations, improving women’s financial empowerment, while also adding to their work burden (Adhikari and Hobley, 2011, Hadi, 2001, Sugden et al., 2016). Other challenges include gendered constraints in accessing, and to resources for climate change adaptation (Zahur, 2009, Sugden et al., 2014b, Sugden et al., 2014a). Research has also looked at migration induced changes in cropping patterns and resource allocation on the farm (Chen et al., 2013, Sugden et al., 2016), and a loss of agricultural knowledge (Sugden and Punch, 2016).

In light of these findings, important questions remain regarding the distributional benefits of remittances, and in particular, the socio-political contexts that facilitate positive feedback loops from migration, particularly when one considers the negative outcomes of rural population loss. Understanding the impact of migration on agrarian livelihoods is particularly important. With rising living costs, weakening terms of trade for agriculture, and climate stress, households across the majority world are increasingly pursuing a *dual livelihood strategy*, depending simultaneously on both remittance in-flows as well as farming (Adhikari and Hobley, 2012, Hadi, 2001, Paris et al., 2005a, Sugden et al., 2014c). Migrants often retain strong links to the sending community, with part of the family staying behind.

This paper seeks to explore how migration is shaping agrarian change with a comparative case study from two of the largest migrant producing regions in the world, South Asia (in particular, Nepal and India’s Eastern Gangetic Plains) and rural China. Of particular concern in this paper is the potential for migration to strengthen agrarian livelihoods at home, and the mediating role of role of socio-economic inequalities and diverse political and macro-economic contexts in shaping the outcomes of migration for family members who remain in agriculture.

## Migration in China and South Asia

Both China and South Asia are regions where there has been an unprecedented rise in male out-migration over the last two decades. China has a long history of migration, particularly with the movement of traders and artisans within China since the Song Dynasty, and their later movement from coastal regions to Southeast Asia in the 18<sup>th</sup> and 19<sup>th</sup> century (Gungwu, 2006). Labour migration emerged in the 19<sup>th</sup> century, particularly through the coolie system, with the movement of poor peasants to work in plantations or industry in the Americas, Australasia and Southeast Asia. During the early communist era there was high levels of rural to urban migration, with the emergence of state owned urban industries, although after the 1960s, movement was highly regulated, and often involved state sanctioned reverse migration from cities to rural areas for strategic or political reasons (Liang and White, 1996). The *hukou* household registration system that defined who was an 'urban' or 'rural' worker restricted free movement from the countryside to cities. Since 1978 restrictions were relaxed with economic liberalization, and it continued to increase exponentially throughout the 1990s and 2000s, buoyed by large scale urbanization and capitalist industrialization (Ye et al., 2013). In China alone, the number of internal migrants is estimated to be close to 262.61 million as of 2012 government statistics, out of which 163.36 million were classified as long distance migrants, moving to distant urban centres for extended periods of time (Gourida, 2013).

In South Asia, like China, migration has a long history. Aside from historical movement of traders and labourers to urban centres, the colonial era saw the large scale recruitment of indentured labour from the tribal belts of central India (Bates and Carter, 1992) and from the Gangetic plains of eastern India (De-Haan, 2010, Brass, 1999), to work both in plantations within the country, and in overseas colonies such as Mauritius. However, in the deeply stratified and semi-feudal social formations which persisted in many parts of the Eastern Gangetic Plains, the levels of out-migration appeared selective, with debt bondage often tying farmers to the land well into the post-colonial era (Sugden, 2016). The Himalayan region has also long been a region of high colonial era migration, particularly with the movement out of Nepal to work in the colonial army in India (Kansakar, 2012), and the eastwards movement of labour into Assam and Darjeeling to work in the emerging tea economy (Caplan, 1970).

This steady flow however of labour migration in South Asia, increased substantially from the 1980s following the Green Revolution in the Punjab, Haryana and western Uttar Pradesh and following the liberalization of India's economy and the substantial urbanization that followed. The migration flows in this context were primarily from India's poorer eastern states, to the more agriculturally developed and urbanized western states. A study from Bihar state by Karan (2003) notes that the proportion of households with migrants increased from 27.69% to 48.63% between 1982/3 and 1999/2000. In India Deshingkar et al (2008) estimates there are 100m internal migrants.

Similarly, after the 1980s Nepal saw a significant change in the migration pattern towards cyclical migration also to western and southern India initially, but increasingly from the 1990s, to overseas destinations such as the Persian Gulf and Malaysia. As of the 1981 census, there were 402,977 Nepalese household members classed as 'absentee'. This had increased more than fourfold to 1,921,494 by the 2011 census. In 1980, 93.1% of migration was to India (Khatiwada, 2014), although from the 1990s onwards, 90.1% of migration was to overseas destinations and just below 10% was to India (Khatiwada, 2014). This emerged from the 1990s as government policy in Nepal actively facilitated migration to overseas destinations (Graner and Gurung, 2003) as it sought an outlet to avert social unrest in the context of a stagnant industrial sector.

Both China, upland Nepal, and the Eastern Gangetic Plains represent valuable case studies to understand the impact of migration on the agrarian economy. In both regions, scholarship has suggested that the impact of migration on agriculture and stay behind populations is significant. Migration is leading to changed agricultural investment patterns, labour shortages, and instances of both economic insecurity and occasionally prosperity

for those who stay behind (Ye et al., 2013, Sugden et al., 2014a, Paris et al., 2005a, Song et al., 2009, Chen et al., 2013).

However, at the same time, the three regions also represent vastly different socio-political contexts. Firstly, in terms of the overall trajectory of growth, China is in the midst of a large scale capitalist transition with the creation of a significant home market for agricultural produce, as well as a booming industrial sector, with huge demand for labour. China also has a strong interventionist state, with far stronger programs to support farmers and shape the agrarian transition – most notably through control over land allocations to maintain relative equity in rural areas.

In the migrant sending regions of the Eastern Gangetic Plains and upland Nepal however, capitalist development is limited. The plains are characterized by a deeply inequitable agrarian structure, with semi-feudal landlord-tenant relations restricting agricultural development, and a largely absent and (at worst) predatory developmental state (Sugden, 2013a, Sugden, 2016, Rodgers and Rodgers, 2001). In the uplands of Nepal, agriculture remains ecologically fragile and dominated by small-scale subsistence production (Sugden et al., 2017, Blaikie et al., 2001).

In terms of the opportunities for migrants, labourers from both China (Hart-Landsberg and Burkett, 2004), rural India (Harriss-White and Gooptu, 2009) and Nepal (Blaikie et al., 2001) face insecure employment conditions and low wages in urban centres, meaning that households depend on both agriculture and remittances as part of a dual livelihood strategy. This is akin to a classic ‘articulation of modes of production’ (Meillassoux, 1980, Sugden, 2016, Wolpe, 1982), discussed in the Marxist anthropology literature, whereby agriculture ‘subsidises’ wages in the capitalist sector. In spite of these commonalities, the working conditions and wages are arguably far worse in the Indian and Nepali context. Labour is mostly casual, low paid and unskilled and includes work in low value industries such as agro-processing and brick kilns (which depend on seasonal labour), as well as the tertiary sector (Bhaduri, 2009, Blaikie et al., 2001, Breman, 2009, Harriss-White and Gooptu, 2009). Also, Nepal represents a unique case given the predominance of migration to the Gulf countries, a trend evident also in other parts of South Asia not included in this study (Kerala, Pakistan, Bangladesh). In spite of the higher wages, such kinds of employment create their own unique challenges, including high vulnerability to exploitation and the huge drain of remittances from middlemen, not to mention the large debts which are incurred to meet the upfront costs to migrate (Sugden et al., 2016).

In sum, both regions represent fascinating comparisons to understand some of the common stories of farmers experiencing demographic change, as well as some of the unique differences, which can point to important policy questions as well as solutions to maximise the positive outcomes of migration.

## Methodology

This paper involves the combining of three datasets from three separate projects with somewhat different aims, although there was some communication across projects to develop synergy with the research design to develop a comparative data set. While the study covered 20 villages in total (see Table 1), the geographical spread varied considerably, with 5 provinces being covered in China, only three zones of Nepal, and just one district in India. This is accepted as a limitation of the study, although it should be noted that the village in India was part of the same cultural and ecological region as the adjoining villages of Nepal, and was included to gain a flavor of the larger Mithilanchal region – one of the largest migrant sending regions in India.

All three administered a series of interviews in 2014 which combined both quantitative as well as qualitative questions. It covered issues such as household income, land ownership, migration patterns, use of remittances, changes in livelihoods post migration, and gender relations.

The first project and dataset was a study of migration and climate change resilience in Nepal's eastern hills in Bhojpur district, which included a random sample which was selected to participate in a household interview across three diverse villages at different altitudes. The second was a study in Nepal's Dhanusha and Saptari district in the plains, including a third village in Madhubani district over the border in India's Bihar state. This involved a similar interview, which was random, yet selected only those households who had family members as migrants. To gain insights into the trends at a village level, a larger survey from 2013 was used, which sampled from across the population, yet only included Dhanusha and Saptari. The third project and dataset was a study on migration and agricultural investment in China. Data was collected in five provinces including Hunan, Hubei, Jiangxi, Anhui and [Guangdong](#). For Hunan and Hubei provinces, four villages each were selected; for Jiangxi, Anhui and Guangdong provinces, two villages each were selected.

In all villages for all three datasets, a series of focus groups were also carried out both to assess the context, while also seeking group consensus on some of the major livelihood issues facing households at a time of out-migration and demographic change.

**Table 1: No. of interviews carried out by site**

Country	province / state /zone	county/district	Township/Panchayat/VDC	village	No. of household interviews
China	Hunan	Liling (hills)	Baitutan	Quanyuan	34
				Huxia	36
		Nanxian (plains)	Shanxianhu	Feiyue	35
				Shiba	32
	Hubei	Gongan (plains)	Mengxi	Huangdi	32
				Guoqing	31
		Jianli (plains)	Wangqiao	Zhashang	35
				Huangxiekou	Gaohuang
	Jiangxi	Xinjian (hills)	Xixia	Wanfu	30
				Wushi	31
	Anhui	Tongcheng	Fangang	Xiaopeng	29
				Lianhe	34
	Guangdong	Gaozhou	Sishui	Dahan	30
		Dianbai	Shalang	Liandong	34
India	Bihar	Madhubani	Rakuwari	Rakuwari	42
Nepal	Koshi zone	Bhojpur	Dingla/Mulpani	Kimalung/Gufagaon	39
				Sanrang	58
				Aaptari/Bhadare	62
	Janakpur zone	Dhanusha	Thadi Jijha	Thadi/Jijha	44
	Sagarmatha zone	Saptari	Lalapatti Odraha	Lalapatti	21
				Odraha	20

## On the study sites:

### Nepal and India

The Indian site, Madhubani, and the two plains provinces of Nepal, Saptari and Dhanusha, share many commonalities. Both share a common language – Maithili, and although they have come under different

political regimes over the centuries, the social structure is very similar. Madhubani, was under the rule of the Mughals between the 11<sup>th</sup> and 14<sup>th</sup> centuries, and later was part of the Hindu Darbhanga Raj, a tributary state of the Mughal and then the British colonial authorities (Chaudhury, 1964). Saptari and Dhanusha on the Nepal side of the border were under a number of similarly centralized states, including the Sen, Gorkhali and Rana dynasties. On both sides of the border, a state tax collection apparatus which propped up local elites combined with a rigid caste system, saw the development of a hierarchical agrarian social formation, with the concentration of a large portion of the land amongst a small landlord and rich farmer class. In the post-colonial period, efforts at 'land reform' largely failed due to the entrenched power of the landed elite – with landlordism persisting well into the 21<sup>st</sup> century (Regmi, 1976, Kishore, 2004, Sugden, 2016).

Today, all three study districts on both sides of the border are densely populated and intensively cultivated, and economic stratification within communities is deeply entrenched. Land ownership amongst respondents highly skewed, and as noted above most are small farmers, tenants and laborers, who constitute a significant majority in the region (Sugden et al., 2014a, Sugden, 2013b). In the Madhubani sample in particular, there is a very high proportion of tenants or part tenants (60%) most of whom work for a small number of politically powerful landlords. In Dhanusha and Saptari, the proportion of tenant or part tenant farmers in the sample is less (25% and 36% respectively), but there is a greater proportion of landless laborers (16% and 10% respectively), many of whom are from the Dalit community and work for large farmers or landlords. There are also a high proportion of marginal farmers with less than 0.5ha (23% and 39%).

The upland site of Nepal, the Chirkhuwa valley of Bhojpur district, has a similar history to the lowlands, in that it was absorbed into the centralized Gorkhali kingdom in the 18<sup>th</sup> century – although the ethnic and economic context was different. The predominant community were the indigenous Rai, who were shifting cultivators on the valley slopes, although another *janajati* or tribal group, the Tamang, lived on the more marginal higher altitude lands. Inequalities intensified in this region following the Gorkhali conquest – with the propping up of Rai chieftains, and the migration of upper caste Hindus from the west (Gaenszle, 2000, Sugden et al., 2017). The Hindu castes brought with them settled paddy cultivation methods and claimed some of the best valley land, while the abolition of tribal communal land rights or *kipat* disenfranchised many poorer indigenous cultivators. Nevertheless, the rugged terrain, population pressure, and out-migration of many richer landowners meant that the inequalities were never as severe as in the lowlands. 60.7% of farmers are small owner cultivators farming fixed plots, 30.3% are part tenants, while 7.6% are part tenants.

What all three sites in Nepal and India have in common is the absence of non-farm labour opportunities. Nepal has seen decades of economic stagnation, driven by its persisting economic dependence on India (Blaikie et al., 2001), the legacy of the decade long conflict from 1996 – 2006, and chronic political instability in the subsequent years. Madhubani meanwhile, lies within one of India's poorest regions. The highly uneven pattern of development within the skewed economy of post-colonial India (Kirk, 1981) saw Bihar, within which Madhubani is situated, emerge as one of the most peripheral states. In all the Nepal and India sites, there is limited industry, aside from some low value agro-processing enterprises and brick factories.

## China

The fourteen villages in the Chinese dataset are spread across rural, agricultural regions of Central and South China. Liling of Hunan, Xinjian of Jiangxi, and Gaozhou and Dianbai of Guangdong – all lie in the low hills of South China. Nanxian of Hunan, Jianli and Gonggan of Hubei, and Tongcheng of Anhui, all lie in the plains of the Yangtze valley. While these villages do have a complex and varied history, unlike Nepal and India, the communist history and important role played by the centralized state in land relations, mean that they have a very similar agrarian structure today. In sharp contrast to the India/Nepal sites, the village committee equitably distributes agriculture land to households in the village. This is based upon the fundamental principle that land is publically owned, and all households registered in the village have the right to cultivate **several a** plots. They are allowed to rent out land, although they cannot sell it. While households mostly have similar sized **private**

contracted plots, the size does vary considerably between villages depending on the population and the nature of the terrain. The average land holdings in the Guangdong, Anhui and Hunan (only Quanyuan and Huxia villages) sites, is about 0.13 to 0.20 ha. In the Jiangxi, Hubei (only Huangdi and Guoqing villages) and Hunan (only Feiyue and Shiba villages) sites, it is around 0.40 to 0.54 ha. The largest holdings are in the plains villages of Zhashang and Gaohuang in Hubei province, where it is more than 0.74 ha.

## Patterns of migration: gender and generation

From **Error! Not a valid bookmark self-reference.**, it is clear that migration is high across all the sites, with a majority of households having at least one migrant family member. The highest levels are 67% in the China and India samples, and the lowest is 55% in the Nepal (Dhanusha) sample. It is important to note that there is variation at a micro level within sites. For example, in Bhojpur in upland Nepal, the villages on the most marginal land at the top of the watershed – Kimalung and Gufa have a migration rate of 77%, while it is 60% in the middle altitude village of Sanrang and 55% for the more fertile valley floor villages of Aaptari and Badhare. There did not however appear to be a relationship between one’s economic position and migration – and even wealthier households have migrants, although the type of work and level of the remittances may differ.

**Table 2: No and % of households with migrants by country samples**

Total no of migrants	No of hhs with family member working outside	% of families with members working outside
Nepal (Bhojpur)	99	62.3%
Nepal (Dhanusha)*	74	55%
India (Madhubani)*	115	67%
China	302	67%

\* Drawn from separate 2013 sample from same villages as all households in 2014 sample in Dhanusha/Saptari and Madhubani had migrants

A first question relates to the type of migration. Migration is primarily to Indian urban centres such as Delhi and Mumbai in the case of Madhubani, while in Dhanusha and Saptari on the Nepal side of the plains, and Bhojpur in the hills, there is some migration to India, but also considerable migration to the Gulf economies and Malaysia. In China, the majority of migration is to the coastal cities. Interestingly, although Guangdong itself is a destination for migrants, there is a large rural hinterland which is far from the primary urban agglomeration of the Pearl River Delta (Guangzhou-Dongguan-Shenzhen), and given the particularly marginal land in the two sites in Guangdong’s Maoming prefecture, migration is particularly high here.

A second question relates to the underlying reasons for migration. In Nepal and India, the narratives of why families migrated was similar. When asked an open-ended question about the primary reasons migration, most respondents noted economic insecurity, and the difficulty meeting immediate food needs from the land. Similar issues raised during such responses included the high cost of living, including rising prices for food and commodities, as well as pressures on agriculture itself, such as an increasingly erratic climate and rising costs of fertilizer, diesel and other inputs. Other reasons included land scarcity, need to pay for children’s education, and payments for marriage and dowry. The rising culture of consumerism was also raised, with the younger generation increasingly aspiring to spend more money on manufactured goods and luxuries such as imported clothes, factory made liquor and mobile phone accessories (see also Sugden et al., 2017). This itself was intensified by migration, as people returned to the villages bringing back new visions of an urban lifestyleion (see Liechty, 2003). Interestingly, only a handful of respondents noted that they had migrated to generate capital to invest in land, machinery or to put back into agriculture. This suggest that migration is predominantly a ‘survival strategy’ for the household to continue

In China, the responses were remarkably similar – and were grounded in a perceived inability to subsist from agriculture alone. Agrarian stress was cited as a key constraint, although given the good irrigation infrastructure, climate was not raised as such a significant concern. Instead, households cited the higher cost of inputs such as seeds, fertilizer and pesticide. Hybrid paddy seed prices for example, recently increased from 10 yuan per kilo to 60 – 70 yuan per kilo. Small and marginal holdings were also an issue, with plots yielding limited income for households. In sites such as Maoming prefecture in China, a large number of holdings are below 0.2 ha, smaller in fact than many of the holdings in India and Nepal. Other reasons for migration are again, strongly cultural. For example households spoke of the rising demand for consumer goods as well as the desire for a better house, and the ‘lifestyle’ of the city which is attracting young people. The rising cost of education and healthcare was also cited.

What does appear clear in both sites is that firstly, there is usually a significant ‘stay behind’ population. While some households have several family members working outside, part of the family usually stays behind to manage the farm. There are of course cases in China of entire households migrating, although it is difficult to gauge the extent of this as they are not included in the sample due to their absence. On the whole though the cost of living in urban centres in both India and China dissuades migrants from taking their family with them – and in the case of Gulf migrants, the labour contract is for an individual only. Perhaps more importantly, farming is still very important for the household to meet its overall food needs, while migration fills the gap by meeting the rising need for cash. Few households who were resident in the village had actually ceased cultivation after a family member migrated. For example, in Bhojpur, the site with by far the most marginal land, only 1.2% of the sample had left land fallow *after* migration of a family member. 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 stay behind to meet food shortfalls while their son or husband was away<sup>1</sup>.

**Table 3: % migrants in sample by gender in China/India/Nepal**

Country	Province (District)	% male migrants	% female migrants
China	Guangdong	64	36
	Anhui	54	46
	Jiangxi	67	33
	Hunan	63	37
	Hubei	56	44
Nepal	Bhojpur	99	1
	Dhanusha*	98	2
India	Madhubani*	99	1

\* Drawn from separate 2013 sample from same villages as all households in 2014 sample in Dhanusha and Madhubani had migrants

However, one significant difference between China and India/Nepal, was who actually stays behind to manage the farm. In Nepal and India, between 98% and 99% of migrants are males (see Table 3). Deeply entrenched

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<sup>1</sup> In sites such as Maoming prefecture of China, there was an active market to rent out land – but this generally occurred when an entire family migrated to the city, yet were still registered in the village as per the *bukou* system and still had rights to their fields. Households who actually lived in the community generally would still cultivate the land.

gender ideologies have for generations, limited the migration of women – and the out-migration of men has been contributing to the feminization of agriculture in Nepal and India, with women taking on a larger share of the farm management and labour burden (Tamang et al., 2014, Maharjan et al., 2013, Paris et al., 2005b). It is predominantly men of working age who migrate, and in Bhojpur, only 11% of migrants are from age 45 – 65 and 89% are from ages 16 – 45. This is because migration is a relatively new phenomena and the drive to migrate is embedded in the aspirations of youth, although it may also be due to the physical nature of a lot of the migrant labour work, and the additional social support required by the elder generation.

In China also, a majority of migrants are men, with feminization driven also by gender expectations for the males to meet a households’ economic needs and gender differentials in the wage market (Song and Jiggins, 2002). Nevertheless, female migration is still significant, making up between 33% and 46% of migrants in the Chinese sample. What does however play a critical role in shaping who migrates is generation, with young people and elders staying behind, along with wives who choose not to migrate (Biao, 2007). 91% of migrants are between ages 16 and 45, but for those older than 45 it is only 11%, and there are no migrants above age 65. While this is similar to Nepal and India, it is striking when one considers that for many households in China both husband and wife migrate, leaving the grandparents in charge of the children and the farm.

Most of the migrants in China work in factory, construction sites or service industry. Interestingly it was cited that the need for education was also valued for such work. This puts the younger generation at an advantage not only for the work itself which sometimes require workers to have completed junior school, but to locate work in the first place. This includes for example, reviewing job adverts on the internet. Furthermore, because the *hukou* household registration system also determines one’s access to welfare entitlements (see also Biao, 2007) – the cost of living for farmers is far higher when they move to cities – making it preferable for the children and grandparents to stay at home. Even if one was to change one’s *hukou* registration, the cost of living is still too much for many families to subsist in the cities. Furthermore, the application process is complex, and would involve forfeiting one’s right to the land in the village. In sum, the outcome is that agriculture and migration persist side by side as a dual livelihood strategy organised by age and gender.

## Remittances

Given the persistence of the dual livelihood strategy, it is important to assess the remittance flows in both the study sites. It is clear from Table 4 that the percentage of annual income which is made up of remittances varies considerably from site to site. In the Nepal and India sites, farmers depend to a great extent on remittances to meet their cash needs and it comprises of 60% of annual income in Madhubani, 52% in Dhanusha and a substantial 74% in Bhojpur, where alternative off farm labour opportunities are limited. The actual proportion may be higher if one considers that many households for whom migration has been recent, have not yet received remittances, particularly when one considers that some migrants may still be paying off loans to middlemen. Migrants from Nepal in particular to the Gulf region have to take high loans of up to \$1500 to pay the manpower agents which manage the overseas employment opportunities. Interest can be crippling, at between 3% and 5% per month the loan is outstanding.

**Table 4: Average % of annual income made up of remittances**

province	remittance
Hunan	30%
Hubei	19%
Jiangxi	16%
Anhui	35%
Guangdong	32%

Madhubani*	60%
Dhanusha*	52%
Bhojpur	74%

\* Drawn from separate 2013 random sample from same villages, as this gives an insight into the whole village unlike the 2014 sample that only included households with migrants.

Given the deeply entrenched class inequalities, particularly in the plains of Dhanusha, Saptari and Madhubani, it is interesting to note that the levels of remittances or the extent to which farmers benefit from remittances, appear to be related to the households *pre-existing* position in the agrarian structure. For example, when households were asked to report an estimated increase in annual income following the migration of one or more family members, there were differences according to wealth. Poorer households who are tenants or who own less than 0.5ha of land report an average increase of \$1343 for women headed households and \$1948 for male headed households. Households with more than 0.5ha of land in contrast, have reported an increase of \$1835 and \$2069 reportedly.

This disparity is in part likely to be due to the high levels of indebtedness for poorer households, who have incurred both migration induced debts, as outlined above, as well as debts to meet consumption needs. It may also be due to the fact that unlike in China, where most migrants have a high school education, education levels of migrants in Nepal and India are variable. Migrants from better off households usually have a higher level of education, and thus could potentially receive higher wages in their host country or city. For example, half of the migrants from landless labourer households in Saptari, Dhanusha and Madhubani have no education, and the remainder have only studied below or have not passed the important class 10 exams.

What is most striking when one looks at data from China, is that remittances form a significantly lower proportion of annual income (see Table 4). This has several explanations. Firstly, certain costs back in the village are borne directly by sons or daughters outside – such as education or health fees, not to mention costs of house repairs and commodities – and these also might not be classified as remittances, which tend to refer to the direct transfer of cash. Nevertheless, compared to Nepal and India, there are a far greater number of local work opportunities, and also significant income from crop sales. For example, in the Hubei villages, 30,843 yuan (\$4471) had been earned on average from cash crops over the last year, compared to 14,412 (\$2089) from remittances. By contrast in Kimalung and Gufagaon of Bhojpur, Nepal, the average income from cash crops was just US\$76, compared to \$1020 earned from remittances.

However, qualitative interviews suggested that the level of remittances in China are declining due to the increasing difficulties migrants face in surviving in the cities. A clear contrast with the Nepal/India site is that in China, respondents reported that remittances as proportion of total income have actually declined over the last decade while in Nepal and India, they have risen significantly. As noted above, much of the migration in Nepal and India is either seasonal or temporary, and is almost entirely male. These males leave their families in the community and return periodically. They maintain strong financial links with the household, with the primary reason for migration being to send money home to support the family. By contrast, migration in China has changed over the years. In the early years, it was reported that young migrants maintained strong links the village, returning frequently. Today however, it is common for both husbands and wives to migrate, and settle semi-permanently in the city while the children stay with grandparents. Faced with spiraling costs of living, the proportion of their net income which can be sent home has declined.

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<sup>2</sup> Often older people have the added financial and work burden of having to care for the grand children while the sons or daughters are outside, given the high costs of looking after them in the cities, particularly if both parents work. In the case of daughters who migrate, the income which is sent back often declines after marriage as their priority becomes their husbands family, and she often need to request their permission if she is to send money to her own parents.

One couple in Guangdong estimated how their two sons only sends back around 30% of their annual income. They were looking after the grandson also, although the education costs were borne by the son. They were sympathetic, with the knowledge that the younger generation faces considerable financial stress living in urban areas, and the costs of renting accommodation was significant. However, they believed that in part, changing relationships between the generations were precipitating the decline in remittances. In the past sons and daughters were subordinate to their parents and it was considered an important obligation to support them financially. Today however, they noted how young people often don't tell their parents how much they earn in cities, only sending money back if there is a large expense back home, or if the parents are ill.

## Migration, remittances and investment in agriculture

### Investment of remittances

While the importance of migration cannot be denied, it is now useful to see how it is impacting the longer term trajectory of agrarian change and the patterns of investment on the land. There are three interconnected issues worth exploring here. The first relates to the investment of remittances, and the second relates to the incentives to invest cash from both remittances and other income sources on the land. A related issue is the stress brought about by migration itself due to a loss of labour, and how this affects resource allocation on the farm.

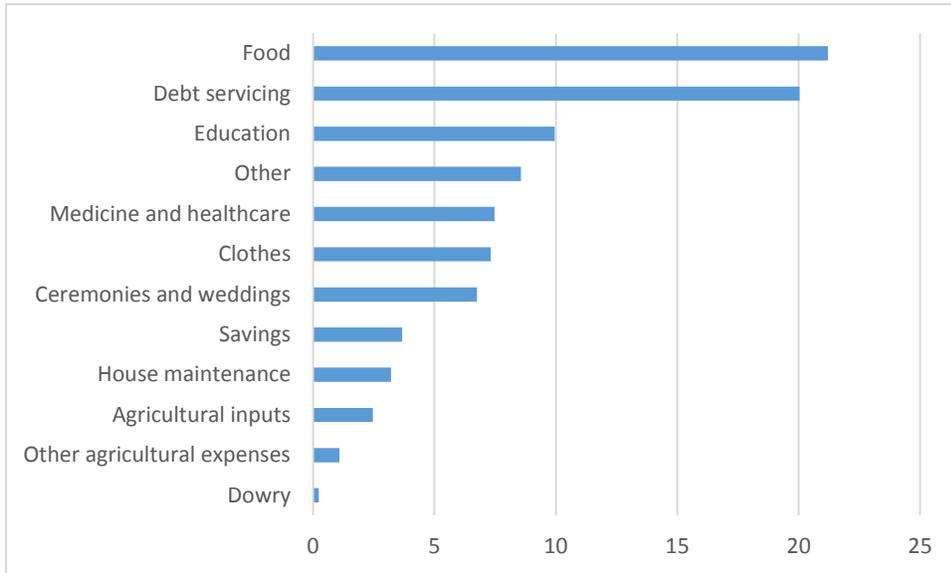
In the case of the India/Nepal site, remittances have clearly led to notable increases in incomes. However, respondents noted that this primarily covered the rising costs of living due to price rises of basic commodities and food, and the rising culture of consumerism. Figure 1 shows that in Bhojpur, while there is some allocation of remittances for 'productive' purposes such as agricultural inputs, it is eclipsed by what is spent on food and most notably, on debt servicing.

Figure 2 is also similar, yet debt servicing forms the highest reported expenditure – exceeding even what is spent on food. Debt and migration are, intricately connected, albeit in diverse ways. Firstly, many households migrate primarily to repay past debts, particularly for tenant and landless households in the plains of Madhubani in India and Dhanusha and Saptari in Nepal. A deeply inequitable agrarian structure has created the conditions for high levels of indebtedness, with a long history of marginal farmers who suffer chronic food insecurity, taking loans from larger farmers, landlords and other private lenders<sup>3</sup>. Furthermore, as noted above, in Nepal, where overseas migration is widespread, households take loans to facilitate the migration process. Out of the interviewees in Dhanusha, all but two households had taken loans to meet these costs, and the two which hadn't had sold land and a shop to pay the intermediaries.

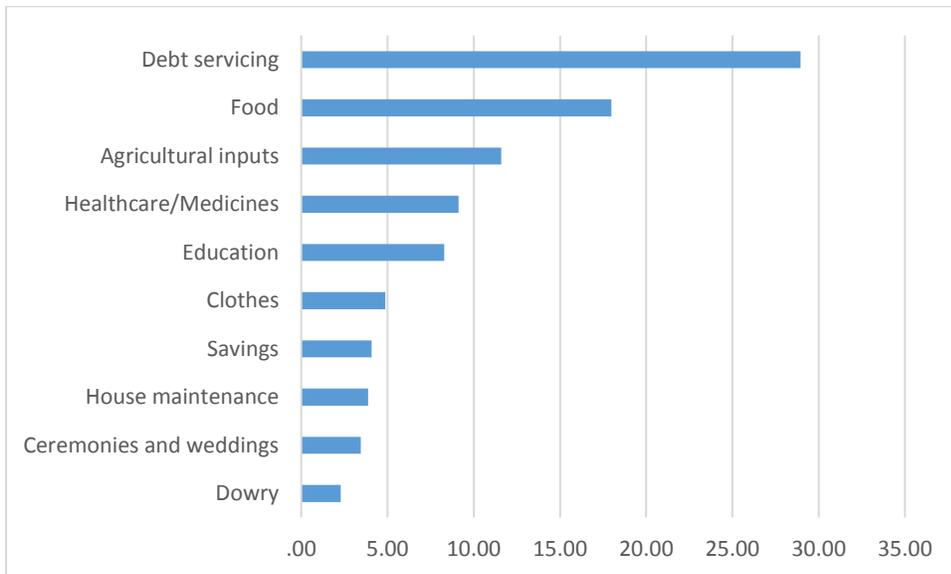
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<sup>3</sup> In Madhubani as part of the 2014 study, 19 out of 29 poorer (tenant or owning <0.5 ha) households cited loan repayment when asked for the reasons for migration, and one focus group during a ranking exercise even cited it as the primary reason for migration. The cycle of debt for these households does not necessarily end following out-migration. For landless labourers, debt servicing is close to double the what they spent on food, and it remains significantly higher for all other farmer categories (Sugden et al., 2016).

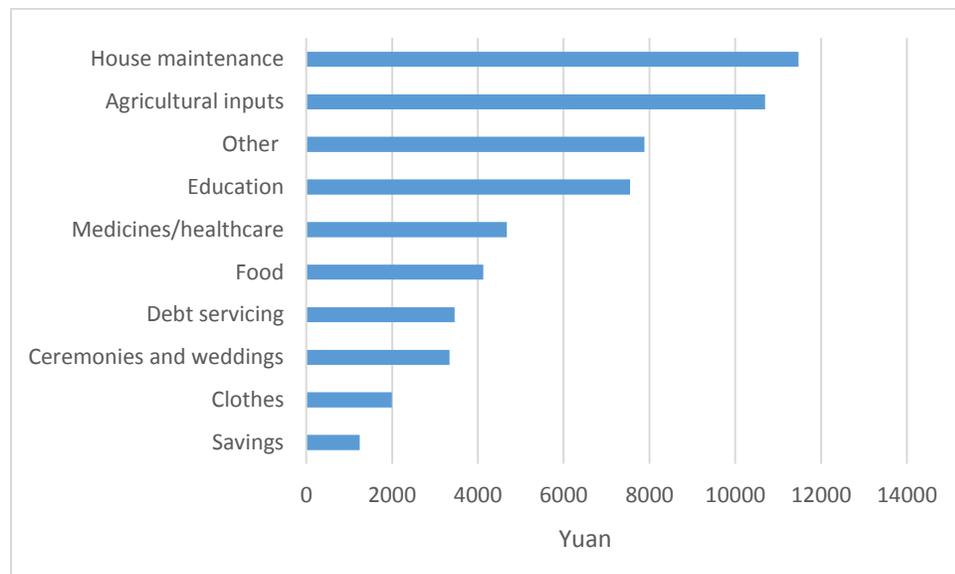
**Figure 1: Average % allocation of remittances in Bhojpur (Nepal)**



**Figure 2: Average % allocation of remittances in Saptari and Dhanusha (Nepal) and Madhubani (India)**



**Figure 3: Average expenditure of remittances across the Chinese sites (yuan)**



In the Chinese data set (see Figure 3), it appears there are some similarities, although house maintenance or construction is higher than expenditure on basic needs such as food and clothing. There has been a strong social pressure for farmers to invest in home construction for cultural as well as lifestyle reasons – it is considered a sign of wealth and social status. This often involves a tradeoff with what can be considered more ‘productive’ uses of remittances. For example, one farmer in Jianli of Hubei sent money home from the city was planning to invest it in a new house, and was expecting his daughter to also migrate and bring money into the family, rather than continuing her education. However, following persuasion by his daughters’ teacher, he decided not to build house and instead support two children for their further study. After several years, the two children finished the study and obtained well paid jobs in Guangzhou Province, so it was thought that this investment had paid off.

While educational investments (which come fourth) are primarily oriented to finding better work in the migration economy, what is particularly promising is that agriculture is the second most prominent use of remittances. On average, 3957 yuan was invested in inputs, 4075 was invested in labour hiring and 2663 in rental of tillers and harvesters. This is a significant contrast from Nepal and India, where agricultural investments of remittances are very low. While this data is based upon estimates by farmers, a series of qualitative focus groups in the Guangdong sites also consistently ranked agricultural investments within the top three uses of remittances.

### Incentives to invest

In order to better understand how remittances are used, it is important to reflect on the far greater economic insecurity in the Nepal and India sites, with the predominance of small and marginal farmers, and exploitative agrarian relations such as sharecropping, not to mention usury and indebtedness. Many in Nepal’s hill site of Bhojpur lack irrigation, and in the plains sites on both sides of the Nepal-India border, irrigation is primarily from diesel pump sets and shallow tubewells, which are prohibitively expensive for marginal and tenant farmers (Sugden, 2014, Sugden et al., 2014a). In this context, households not only struggle to meet their cash needs through the local non-farm economy or crop sales, but often face chronic food insecurity off the land itself,

requiring them to buy in food from outside. It is only natural in this context that remittances are invested mostly in food and the servicing of debts.

There is however a class element which shapes investments of remittances in agriculture. Figure 1 and

Figure 2 from Nepal and India only displays recurring expenses, and does not necessarily include large one off investments in agriculture, which could be made using saved remittances. When asked about large one off expenses after the migration of a family member, the answers appeared connected to one's position in the agrarian structure. In Madhubani of India, and Dhanusha and Saptari of Nepal, only 24% of tenants or part tenants had invested in large on off productive assets - namely land or agricultural equipment. By contrast 28% of small owner cultivators with less than 0.5ha and 46% of owner cultivators with more than 0.5ha had made such investments. The risks of investment were higher for poorer farmers, particularly given that many had to combine remittances with loans<sup>4</sup>. For sharecropping tenants, the crippling rents (50% of the harvest), mean that any investments of land yield poor returns aside from covering a portion of the family subsistence needs.

The agro-ecological context is also important, and this is evident in Nepal's hill site in Bhojpur. In this community, 17% of households had purchased land after the migration of a family member. Although again, most were from the better off land owning farmers, there was an overall greater incentive given the presence of canal irrigation, and the emergence of cash crop opportunities in recent years such as *rudrakeshya* (beads used for religious rituals). By contrast in the marginal upper altitude villages of Kimalung and Gufagaon, only 2% of households had invested in land, regardless of economic status.

In China by contrast, the overall investment climate in agriculture is a lot more favourable. Firstly, unlike in Nepal and India, land is distributed equitably according to household needs – and households do not suffer from the drain of surplus that one observes with South Asian sharecropping. There is a market for leases, but rents are generally low, and it was common for family members to give plots they do not need to relatives with little or no remuneration. Secondly, although plots are small, particularly in sites such as Maoming prefecture of Guangdong, unlike in Nepal/India, farmers did not have to pay for irrigation, as it was provided through a series of water storage reservoirs.

Finally, the external macro-economic and policy context is more favourable and there has been an increase in agricultural productivity and incomes over recent years, which encourage continued reinvestment on the land. The average rice yield has risen from 200kg per *mu* to 400kg per *mu* due to the availability of hybrid seeds. There has also been an important shift towards cash crops in recent years given China's ongoing urbanization and the booming demand for vegetables and fruits to serve the ever growing urban market. For example in the study villages of Guangdong, it was reported that twenty years ago, all vegetables were sent to Guangzhou and Maoming. Now they go to North China where they have competitive advantage during the winter. The enhanced income and food security from agriculture in this context means farmers are able to cope with declines in remittances. It was felt that recent policy changes had created a more favorable climate for agricultural investment. For example, before 2005 farmers had to pay agricultural taxation, although this has been removed. There are also other facilities such as health insurance and pension, while tuition fees for primary to middle school have been free from 2006.

To give an example, one respondent with 1.6 *mu* of land and another 2 *mu* rented, notes how his daughter receives 3000 yuan per month in the city, and sends the parents 10,000 yuan per year in remittances, working

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<sup>4</sup> One of the poorer farmers had actually sold land to send the husband abroad, but later taken a Rs300,000 loan to buy land again. Another respondent had bought land using the same large loan of 500,000 which was also used to facilitate migration in the first place. A larger land area is often necessary for women who stay behind to support the family while the husband is away, particularly when remittances are sporadic.

out at just over a quarter of her net annual income. In the last year, around a third of these remittances were allocated to meeting the costs of agricultural inputs (3500 yuan), with the remainder going towards household renovation and the marriage of the son. The income from last years' fruit and vegetable crop (9500 yuan) has however, helped the family meet all of these cash demands, while their food needs are met by rice from their land and poultry which they raise.

While the position in the agrarian structure appears to play an instrumental role in shaping investments in Nepal and India, family circumstances appear more prominent in the Chinese contexts. For example, for families, with young children, more money will go into education expenses, while for households where the children were living with parents in the cities, a large share of the money which comes into the community could be invested on the farm. Similarly, for households run by elders over 65, investment of money in health was considered most important.

### Labor shortages

By far one of the greatest challenges associated with the rise of the migration based dual economy is the labour burden of those who stay behind (Adhikari and Hobley, 2011, Chang et al., 2011, Gartaula et al., 2010, Sugden et al., 2016). In the Nepal and India sites, with the migration of males, a large number of women have to take up new work responsibilities aside from the usual agricultural tasks (such as transplantation, weeding and harvesting) and reproductive activities in the home. This includes tasks formerly in the male domain such as managing water for irrigation, buying fertilisers and seeds, overseeing labourers, negotiating with landlords, sowing and taking grains for cleaning and polishing to the mills. When asked about the challenges of household and agricultural work associated with migration, 60% of women headed households who were tenants or owned less than 0.5ha noted high workload as the primary problem faced during household reproductive work, with 70% noting it to be the main problem for agricultural work.

While some households in both the hills of Bhojpur and plains of Dhanusha, Saptari and India's Madhubani, reported that they had left land fallow in the dry season due to labour shortages within the household, the larger data set showed no solid evidence of reduced cropping intensity due to migration. Agriculture remains critical for those who stay behind to ensure household food security. In fact, 80% of those in the sample from Nepal's lowland Saptari and Dhanusha sites and India's Madhubani noted *no reduction* in the area cultivated since the migration of their family member. The inevitable outcome however, was a significant increase in the workload of women on the land. As one would expect, rising workload is most significant for women headed households with migrants, without the support of in-laws. Interviews also suggested it was worse for poorer households, as better off households could hire labour to replace the family members who have left. In the hill district of Bhojpur in Nepal, the work burden was found to be higher in the villages of Kimalung and Gufagaon with the most marginal land. It not only sees the highest out-migration, it is also further from the market centre, adding to the time spent travelling to access basic services or purchase and sell commodities.

While the work burden has not influenced the intensity of cultivation, it is likely to have a long term impact not only on the wellbeing of those who stay behind, but also on productivity. Paddy yields per hectare in Madhubani, Saptari and Dhanusha for example were found to be 45% lower for poorer (owning <0.5 or tenant) female headed households who reportedly suffer the greatest work burden, when compared to larger (owning >0.5ha) male headed households, and 20% lower when compared to poorer male headed households. This has multiple other causes (including gendered barriers to access resources – see Sugden et al 2014), although difficulties managing labour was cited as one among several reasons.

In China, the work burden was also a constraint. When asked if they faced a labour shortage, half the sample believed this was a problem – a challenge which is primarily facing the older generation. However, only 40% felt this challenge was due to migration. This is because over the last few years, households have adapted to demographic change through the investment in mechanization and labour saving technologies. When asked

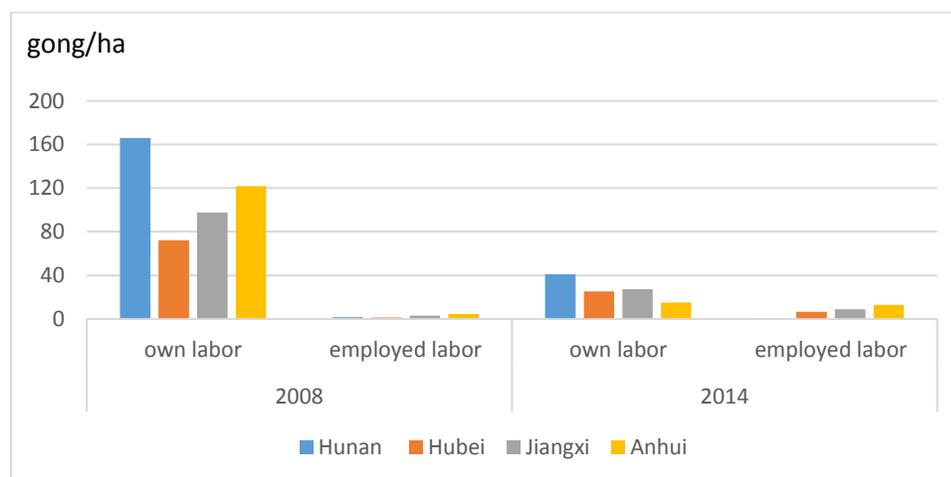
about how farmers deal with labour shortages (see Table 5), 34% reported the hiring in of additional labour, although like in Nepal and India, this is dependent upon economic status, not least because farm wages had reportedly increased from 60 yuan per 8 hour day to 200 yuan per 8 hour day between 2008 and 2014. Like in Nepal and India, there is not a tendency for farmers to stop farming, with only 5% noting that they were renting out their land as a result.

**Table 5: Responses by farmers in Chinese sample to labour shortages**

	Hire farmers	Exchange labor	Buy machine	Rent out land	Use technique	Rent machine	Other
Household	112	15	19	16	29	75	59
Percentage	34%	5%	6%	5%	9%	23%	18%

What is most promising is that 23% cited that they had rented in machinery using remittances and 6% had bought equipment, while a further 9% changed their cropping techniques. The latter includes for example, the direct seeding of rice rather than transplanting by hand – a trend which was now widespread in the Guangdong site. The trend towards mechanization is also evident in Figure 4 which assess the number of labour days or *gong* (equivalent to an 8 hour day) required per hectare between 2008 and 2014. It shows a significant reduction in the number of the households’ own labour days invested on the land per hectare in the data sets from all four provinces, yet only a marginal increase in the number of employed labourers from outside. Although manual methods still predominate, in recent years there has been a greater availability of machinery including mechanical transplanters, tillers and harvesters. Some are bought by farmers, while others are available through private service providers who travel from north to south China, following the agricultural seasons. In Dahan village of Guangdong, it was reported that 80% of farmers now harvested using machine, when it was done entirely by hand two decades ago. There was broad agreement however, that these investments in mechanization would not be possible without the combined access to remittances and lucrative income from cash crops and fruits, which make these expenditures pay off. In India and Nepal however the costs of running this machinery were prohibitively expensive for marginal, often rent paying farmers.

**Figure 4: Number of labour days (gong) per hectare required in 2008 and 2014**



It is also worth noting that in spite of the role of mechanization in reducing the work burden for the older generation, some of the greatest challenges were for household reproductive work, given their increasingly important role in caring for grandchildren. Furthermore, in the case of an illness, most found it very challenging to not have their children around to care for them.

## Conclusions

This paper has shed some light on the impact of migration on agrarian livelihoods in regions undergoing quite different paths of development – including common experiences, and divergences in the potential for migration to play a productive role in agriculture. What the experiences of Chinese, upland Nepali, and lowland Nepali and Indian farmers have in common, is their dependence on both migrant wages and agriculture as part of the overall household livelihood. Overall, agriculture is oriented to meeting the food needs of households, while migration is focusing on meeting the monetary needs, at a time of rising demand for cash. This distinction becoming blurred though in China, as farmers increasingly take up lucrative cash crop opportunities. In both regions, it represents a classic ‘articulation of modes of production’, with peasant agriculture essentially subsidizing the labour of migrants, who retain strong links to the village. The land covers the subsistence needs of the extended family while also facilitating the reproduction of labour power. This suggests that today’s migration patterns are vastly different from the transformations of industrial revolution Europe, when migration would represent a ‘break’ from the land, and entire families would relocate to cities.

There are however, significant differences in the impact of this change on agrarian livelihoods. Concerning the pattern of remittances, it is clear that in the sites in Nepal and India, households are far more dependent on remittances. There are fewer other opportunities to earn cash locally in the peripheral region covered in this study, and remittances form a large proportion of annual cash income. This is also the region facing the greatest agrarian stress, with poor and costly irrigation infrastructure, high vulnerability to climate change, weak terms of trade for farmers, and severe land inequality. What remittance money is sent back is generally consumed entirely in consumption. Given the inequitable agrarian structure, indebtedness is widespread (including debts incurred to fund migration itself), and this consumes a large chunk of annual remittance inflows. Debt, surplus appropriation through rent and poor irrigation, means that only the wealthier farmers are actually diverting remittances into productive investments such as agricultural inputs or land purchases. For the marginal and tenant farmer majority, the incentives to invest remittances in agriculture are simply not present.

In China by contrast, there are far greater opportunities to earn money locally through crop sales and local labour, the irrigation infrastructure is effective, and the village committees, given the communist history, distributes land equitably. While rising living costs in cities means that the amount left for migrants to send home is shrinking, this drop is being compensated for by rising agricultural incomes. In spite of constraints linked to rising living costs and small farm size (which continue drive migration), agriculture has remained relatively profitable for those who stay behind, with booming demand for vegetables and fruits from urban centres. This demand for cash crops, and the fact that farmers do not suffer from exploitative tenancy or usury relations, means that a large proportion of migrant remittances are actually being invested on the land.

One big difference between the two regions, which also has implications for the long term agricultural growth potential, is how farmers are dealing with demographic change and the labour shortages in agriculture due to migration. In the Nepal and India sites in both plains and hills, where migration is almost entirely male led, the work burden for the women who stay behind can be crippling – resulting in severe hardship, not to mention reduced productivity. In China, it is primarily the older generation who stay behind, and to a lesser extent, women. They have faced an increased work burden – most notably through taking on the role of caring for grandchildren. However, in terms of agriculture, they have addressed the labour constraint through small scale mechanization – which itself has been aided by the more favorable investment climate in agriculture.

In sum, it is clear that migration is having a profound effect on rural life – as farmer move towards a dual livelihood strategy. However, the impact on agriculture itself is variable. In peripheral regions such as the Eastern Gangetic Plains and upland Nepal, it is having limited impact on agricultural livelihoods, with remittances being used for consumption, and in some contexts, a negative impact, when one considers the rising work burden. In China by contrast, remittances and demographic change are contributing to the

mechanization and intensification of agriculture, although this is supported by a favorable external environment, most notably the rapid industrialization in urban centres – the same changes which are drawing farmers from the land in the first place.

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