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Migration as a driver of changing household structures: implications for local livelihoods and adaptation

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ABSTRACT

Rapid environmental change, increasing climate variability, land fragmentation, and underlying institutional lacunae have shaped rural livelihoods in India. Increasingly, rural-urban migration has been a significant livelihood strategy to manage risks, meet aspirations, and move out of increasingly unprofitable agriculture. I argue that this movement of people is changing shape household structures, and the metrics to assess these transitions, often through categories of male- and female-headed households, fall short in understanding the experiences and outcomes of migration. Using a household survey (n = 825) and life history interviews (n = 16) to study rural-urban migration in South India, I demonstrate that shifting household configurations due to migration and commuting have implications for the risk management strategies people undertake. This calls for an expanded understanding of the 'household', which captures the realities of multi-local households, and consequently, for an expanded conceptualisation of 'local adaptation'. Such an understanding is sensitive to the 'beyond-local' flows and networks that shape household risk management behaviour and has implications for improving the effectiveness of climate change adaptation interventions.

KEYWORDS

Migration; aspirations; intra-household dynamics; gender; adaptation; India; climate change

Introduction

Rural to urban migration is a key livelihood strategy in rapidly developing, low-income contexts. It is often identified as a significant approach to strengthen rural livelihoods and adapt to climatic risks (Adger et al., 2015; Warner & Afifi, 2014). However, the ways in which migration shapes and is shaped by household structures, and how these dynamics in household composition affect people's adaptive capacity and broader adaptation processes in rural and urban areas is poorly studied. This paper attempts to fill this gap using empirical evidence from two districts in South India.

Migration as a key livelihood strategy in dryland India

Livelihood vulnerability in India's drylands is shaped byseveral interacting social, economic, political, and environmental changes. Supporting 40% of the country's population (Harriss-



White, 2008), these regions are characterised by low and erratic precipitation, increasing natural resource degradation, low agricultural productivity, inadequate governance responses, and poor performance on development indicators due to economic marginalisation (Bantilan & Anupama, 2006; Harriss-White, 2008; Mehta, 2000; Yadav & Lal, 2017). Increased climatic variability is severely challenging agricultural incomes across semi-arid parts of India (Banerjee, 2014; Bantilan & Anupama, 2006), with climate change projected to exacerbate livelihood vulnerability (Mall, Singh, Gupta, Srinivasan, & Rathore, 2006). In this context of multi-dimensional risk, dryland communities have a history of livelihood adjustments, with migration emerging as a significant strategy.

Migration is a significant livelihood strategy across rural India to diversify livelihoods, spread risks (Singh et al., 2018; Bhatta & Aggarwal, 2016; Deshingkar, 2016; Deshingkar & Start, 2003), and meet aspirations that are increasingly non-agrarian in nature (Singh and Basu, 2019; Sugden et al., 2014). Decisions to move are shaped by combinations of aspirations, assets, and agency (De Haan, 1997; Deshingkar, 2012; Sugden et al., 2014; Warner & Afifi, 2014). Despite growing reports of rural-urban migration, especially against the backdrop of increasing agrarian distress in India, migration is not new: Tumbe (2012, p. 87) details how India has had a 'culture of migration' for almost over a century in some regions.

Migration is notorious for the 'heterogeneous nature of migration-remittance-development interactions' (De Haas, 2007, p. 3), and empirical evidence points to mixed outcomes on households (Singh and Basu, 2019; Szabo, Adger, & Matthews, 2018). On one hand, migration can help spread risk and improve incomes, reduce risk exposure, and provide better access to services such as education facilities, thereby increasing overall household well-being¹ (Szabo et al., 2018; Tiwari & Joshi, 2016). On the other hand, it can exacerbate vulnerability because migrants often enter precarious and irregular livelihoods (Chandrasekhar & Mitra, 2018; De Haan, 1997; Michael, Singh, Deshpande, & Bazaz, 2017; Nguyen & Locke, 2014; Samaddar, 2016), which entail high costs of moving (De Haas, 2007), and put inordinate burden on those left behind (Bhagat, 2017; Bhatta, Aggarwal, Poudel, & Belgrave, 2015). Critically, remittances can potentially improve well-being (Szabo et al., 2018), stimulate economic growth, and reduce poverty, but their effects on inequality are much more ambiguous (De Haas, 2007). At a wider, system scale, migration can also lead to a 'deterritorialisation of community spaces and identities' (Robson & Nayak, 2010, p. 275), with implications for common property resources and social cohesion.

When leading to positive outcomes that reduce exposure to climatic risks and improve well-being, migration can be seen as an adaptation (Bardsley & Hugo, 2010; Gioli, Khan, Bisht, & Scheffran, 2014; Warner & Afifi, 2014). However, migration is not a choice available to all (Chandrasekhar & Mitra, 2018; Suckall, Fraser, & Forster, 2016): for migration to take place 'people need both the human, financial and social resources as well as aspirations to do so' De Haas (2005, p. 18), and it is unlikely that poor households lacking human, financial, and social capital will be able to migrate.

Migration is changing household structures in tangible and intangible ways

The literature on migration in the context of climate and environmental change has grown substantially in recent years (e.g. Adger et al., 2015; Afifi, 2016; Gemenne & Blocher, 2017; Gioli, Hugo, Costa, & Scheffran, 2016; Warner & Afifi, 2014; Rigaud et al., 2018) with growing empirical evidence on how gender, social hierarchies, and power dynamics mediate the

migration experience and its outcomes (Singh and Basu, 2019; Bhagat, 2017; Chandrasekhar & Mitra, 2018; Gioli et al., 2014; Miletto, Caretta, Burchi, & Zanlucchi, 2017; Rao, 2014).

In households where male members migrate, household structure mediates impacts of migration on men and women. From a representative study across India, it was found that women in nuclear families have higher responsibilities and greater autonomy than their counterparts living in extended families (Desai & Banerji, 2008). Migration mediates household structures by necessitating alterations in existing arrangements for domestic labour and care (Nguyen, 2014), reproduction and production activities (Rao, 2014), and differential goals and aspirations, which may often be contradictory.

Migration, thus, changes household configurations tangibly and intangibly (Hosegood, Preston-Whyte, Busza, Moitse, & Timaeus, 2007; Spiegel, Watson, & Wilkinson, 1996). Tangibly, 'translocality' or spatial mobility involves all or some family members to move across rural and urban spaces and adjust their livelihoods and lives accordingly. This fluidity in the household unit (Spiegelcalls these 'stretched' households) is a critical aspect of migrant households (Spiegel, 1986). On the flip side, movement of some members may also render others immobile, and these roles of who stays and who moves can reconfigure over time (Nguyen, 2014; Rigg, Nguyen, Thu, & Luong, 2018).

Migration also shifts household structures in intangible ways through changes in responsibilities, identity, and intra-household relationships (Singh and Basu, 2019; Nguyen & Locke, 2014; Rao, 2014). For example, moving morphs the gendered configuration of paid work and care (Nguyen, 2014; Rao, 2012), both in households that move together and in households where some members move to urban areas while others stay back to tend to farmlands and family.

At a higher spatio-temporal scale, longer multi-generational migration can shape community values and behavioural systems, contributing toforming a 'culture of migration' (Thapan, Singh, & Sreekumar, 2014) where a 'breakdown in customary arrangements' may cause 'new community configurations' (Robson & Nayak, 2010, p. 275). Moreover, migration does not disrupt household organisation as commonly understood, but mediates identity, place-attachment, and aspirations in a way that goes on to shape household interactions and structures, and livelihood pathways (Nguyen, 2014; Rigg et al., 2018).

Changing household structures and implications for risk management

To summarise, migration in a key livelihood strategy in rural India. Several studies highlight its role in building local adaptive capacity and helping manage risk (Gioli et al., 2014; McLeman & Smit, 2006; Upadhyay & Mohan, 2014). It also drives changes in household structures (Desai & Banerji, 2008), with implications on labour division and intra-household dynamics (Rao, 2012). However, there is little scholarship understanding the implications of these changed household configurations on risk management behaviour, especially climatic risks. Specifically, the implications of increasing climate variability and male out-migration on gender and household structures and local adaptation remain under-explored (Bhatta et al., 2015; Gioli et al., 2014).

In this paper, I focus on how migration-driven changes in household structures affect household risk management behaviour. Using an illustrative case from South India, I show how migrating and commuting significantly change household structures, with different repercussions for men and women. By doing so, this paper contributes to the literature on gendered and intersectional experiences of migration in India and other contexts of rapidly growing low-income countries, and demonstrates how these experiences shape household response strategies. I argue that understanding these second-order impacts of migration decisions have implications for the risk management strategies people take and thus hold significance for implementing and targeting policies aimed at strengthening livelihoods and local adaptation. The empirical evidence shows that conceptualisations of households as static, homogenous units embedded in a certain geography are erroneous when studying migration and commuting. Thus, I call for understanding households as multi-local and their response strategies as 'beyond-local strategies' that are an 'interplay between local and extra-local influences' (Benz, 2014, p. 261).

In the next sections, I lay out the context of the case study in Karnataka, South India, followed by the study's findings, which cover livelihood dynamics and the role of migration, the resulting changes in household structures, and the implications of these changes on risk management and perceived well-being. The paper ends with a discussion on what these findings indicate for methodologies to study and characterise migration trajectories, and implications of changing household structures on adaptation practice.

Methodology and study sites

Description of study sites

The study was undertaken in two rural districts of Karnataka – Kolar and Gulbarga, and one urban site – Bangalore city (a growing destination for migrants) (Figure 1). Kolar and Gulbarga were chosen because they see significant commuting and migration, are among the least developed districts in Karnataka state (Government of Karnataka, 2014), and face several environmental risks such as severe water scarcity, recurrent droughts, and increasing natural resource degradation (BCCI-K, 2012; Kumar, Raizada, Biswas, Srinivas, & Mondal, 2016; Singh et al., 2017). Climate change is projected to affect both districts significantly: the average temperature is projected to increase by 1.96°C in Kolar and 2.19°C in Gulbarga.² In Kolar especially, minimum temperatures (which are crucial for winter crops) are projected to increase by 2.06°C and maximum temperatures (crucial for disease, pests, physiology of crops) by 1.87°C (BCCI-K, 2012). Annual average rainfall is projected to increase in Kolar by 1.08% and decrease by 1.44% in Gulbarga. The districts also represent differences between South Karnataka (where Kolar is), which is more developed and close to the state capital, and North Karnataka (where Gulbarga is), which is categorised as 'backward', is socio-politically marginalised, and fares very poorly on development indicators (Government of Karnataka, 2014).

Agriculture and allied sectors (horticulture, livestock, sericulture) employ most people in Kolar, and 88% farmers are marginal and small landholders (Kolar District Office, 2016). With 9.7% of the cultivated area irrigated, the main crops grown are finger millet, groundnut pigeon pea, cowpea, and rice. However, cropping patterns have changed significantly over the years, with a shift away from multi-cropping to mono-cropping of cash crops and horticultural crops such as flowers and vegetables. The latter have increased farm returns but are more water-demanding (e.g. tomato, sugarcane), more sensitive to climate variability, and directly impacted by market fluctuations in Bangalore and Chennai (Technical Assistant, Horticulture Department, Kolar, pers. comm.).

In Gulbarga, 11.4% of the cultivated area is irrigated owing to minor irrigation projects in northeast Gulbarga. Famous as the 'pulse bowl' of the country, the main crops grown are

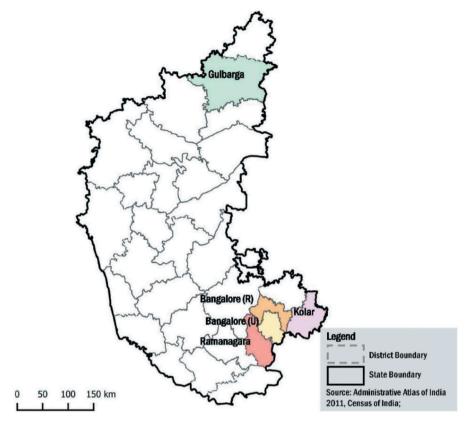


Figure 1. Map of Karnataka showing the districts where the research was carried out. Source: IIHS.

pigeon pea, oilseeds such as sunflower and soybean, and millets such as *jowar*. Increasingly, irrigated areas are seeing the spread of sugarcane cultivation. Livestock rearing is also a significant livelihood, especially among certain social groups such as the traditionally nomadic *Lambani*. Stone mining and wage labour are other major sources of income.

Research design and methodology

Within the two districts, data were collected in 17 villages (9 from Kolar, 8 from Gulbarga), chosen through a two-staged random stratified sampling strategy (detailed in Singh and Basu 2019; Singh, Rahman, Srinivas, & Bazaz, 2018). First, four blocks in each district were sampled to capture the diversity of rural semi-arid districts in terms of livelihoods, socio-demographic, agro-climatic, and geographic characteristics. The selections were based on extensive scoping visits, secondary analysis of census data and policy documents, and key informant interviews. Within each block, two villages were chosen randomly after applying two criteria: (1) villages with a population of more than 200 households were considered; and (2) to make sure agriculture is the main source of livelihood only villages with cultivated land greater than 20 hectares were considered. The chosen villages represent the variation seen across the districts based on social groups, biophysical characteristics, agricultural

practices, and migration behaviour. Detailed village profiles were created through transect walks, focus group discussions, informal interviews and participatory mapping (see Singh, Basu, & Srinivas, 2016 for further details).

Within the village, data were collected through a mixed methods approach, which included a randomly-sampled, structured household survey (n = 825) focussing ondemographic details (Table 1), household assets, risk perceptions, and response behaviour; 26 gender-differentiated focus groups discussions (FGDs),³ which involved participatory exercises such as drawing timelines from 1970 to the present (Singh et al., 2016); and 16 in-depth life histories (5 in Kolar, 5 in Gulbarga and 6 in Bangalore city)⁴ focussing on migration decision-making and outcomes, through the lens of perceived well-being (Singh and Basu, 2019; Singh, 2018). Key informant interviews were also conducted with various stakeholders such as government officials, village leaders, and local civil society actors to gain insights on the larger political economy of agrarian livelihoods and migration.

The life histories drew on approaches of multi-sited ethnography (Marcus, 1995, p. 109), which 'reveal juxtapositions of social contexts through a narration of individual experiences' (Marcus, 1995, p. 110) and allow a nuanced understanding into translocality and migrant experiences (Singh, 2018). Households for life histories were chosen purposively to represent different socio-economic and asset profiles, as well as migration types (seasonal, permanent, commuting), identified through the scoping exercises. Though small in number, the life histories were used to offer grounded insights into the 'processes of livelihood change, particularly relationships between people' (Bagchi et al., 1998, p. 466). The interviews were typically open-ended and conducted with several adult members of a household to gain insights into 'livelihoods and well-being (that) are increasingly conceptualized as partly the outcome of negotiations and bargaining between individuals with unequal power within households' (Bagchi et al., 1998, p. 457).

The data collection followed an exploratory approach and was undertaken over two years of fieldwork done through regular visits across seasons. In this paper, the findings draw on data from these methods but primarily use the sixteen life history

Table 1. Details of households surveyed in Gulbarg
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	Gulbarga		Kolar	
	Total	%	Total	%
No. of households	419		406	
Gender of household head				
Male		85		82
Female		15		19
No. of households with migrants	134	32	190	47
Social group				
General		1		1
Muslim		8		6
Other Backward Castes (OBC)		37		47
Scheduled Castes (SC)		23		4
Scheduled Tribes (ST)		8		3
Others		23		3
Land categories				
Landless		46		19
Marginal holders (<1 ha)		11		57
Small holders (1–2 ha)		19		15
Semi-medium holders (2-4 ha)		13		8
Medium and large holders (>4 ha)		11		3



interviews to explore livelihood trajectories, perceived well-being, and intra-household decision-making.

Findings

Livelihood dynamics and migration as a key livelihood strategy

Migration and commuting are regular livelihood strategies in Kolar and Gulbarga, with documented records of historical migration from drought-prone Gulbarga. In the villages surveyed, 32% households in Gulbarga and 47% households in Kolar reported moving out of their village for work.⁵ Of the migrants, Kolar saw more women migrating (31%) than Gulbarga (19%) (Table 2) primarily because of livelihood options in industrial areas and garment factories in industrial belts near Kolar. Caste critically intersected with gender to mediate migration patterns: of the total women migrating (n = 151), 56% belonged to Scheduled Caste categories.

Patterns of movement across both districts have shifted from commuting within rural areas for agricultural wage labour (usually seasonal labour during sowing, weeding or harvesting) towards rural to urban movement into non-agrarian livelihoods in nearby towns and bigger cities to take up jobs as construction workers, carpenters, painters, drivers, and a mix of other low-to-moderate-to-no skilled jobs. Decreasing rainfall and repeated drought have undermined incomes from agriculture and allied sectors, motivating migration (Singh et al., 2016, 2018).

Across both districts, some migrants moved directly to big cities like Bangalore and Mumbai, while others moved incrementally, first exploring options in nearby towns (typically the district headquarter) and later moving to larger cities if networks and opportunities allowed them to. In Kolar, migrants are typically young men who either commute daily to industrial belts around Bangalore (facilitated by regular and cheap train services to Bangalore) or work as wage labourers in small towns nearby. Educated migrants take up contract-based jobs as housekeeping staff, factory workers, security quards, or drivers in Bangalore, but these are typically accessible only through existing networks. Women tend to choose agricultural labour (picking tomatoes, plucking cotton, working on flower farms) within or near their villages. More recently, women are travelling farther, with some taking up jobs in garment factories that have mushroomed around peri-urban Bangalore in the mid-2000s (K33, NGO worker, pers. comm.).

In Gulbarga, young men migrate seasonally to cities such as Mumbai, Pune, Bangalore, and Hyderabad to undertake 'coolie kelasa' or informal, unskilled wage labour. Coolie kelasa can include working on construction sites, doing odd jobs, or working at brick kilns. Entire families, typically landless or marginal landholders, move seasonally from November to June to work in brick kilns in neighbouring Maharashtra.

Various reasons motivate decisions to move: from livelihood opportunities, available assets and social networks to facilitate immersion in the city, and connectivity, to personal drivers such as moving for marriage or meet aspirations. More recently, increasing climate variability is exacerbating livelihood vulnerability, thereby driving migration through second-order impacts.

Table 2. Migration patterns across Gulbarga and Kolar in the sampled villages. Source: Household survey.

	Gulbarga		Kolar	
	Total	%	Total	%
No. of households with migrants	134	32	190	47
Total no. of migrants	370	27	217	14
Female	41	19	114	31
Male	176	81	255	69
Driver of migration				
Better job		69		48
Unprofitable agriculture		11		40
Debt		10		6
Other		10		6
Migrated into (livelihood)				
Construction		17		41
Manufacturing		6		8
Retail (own shop)		6		5
Government job		4		4
Others		65		42
Job type				
Casual daily		69		53
Contract < 1 year		20		4
Self-employed		2		5
Regular/permanent		5		4
Others		4		34
Duration of migration				
1–3 months		18		31
4–6 months		19		13
6–12 months		29		51
Return migrant		17		3
Permanent migrant		5		
Throughout the year		12		2
Migrates with				
Alone		48		54
With spouse		11		16
With spouse and child		38		26
Others		3		4
Migrates through				
Contractor/Agent		14		2
Family		33		27
Friend/Neighbour		49		42
Government Support		3		2
Village Leader		1		27

Migration and commuting change household structures in multiple ways

Different types of movement result in different types of household compositions. In Kolar and Gulbarga, various forms of multi-local households were seen: households where one member (typically male) commutes daily; those with male members spending prolonged periods of time doing temporary jobs in cities, with annual visits to the village; those with young men living in cheap, shared housing in urban peripheries; and those where both men and women migrate, typically for more than a year. Depending on their asset bases, social networks, political agency, skills, household dynamics, and personal attributes, these household compositions can take on infinite combinations to have a range of differential outcomes on household and individual well-being. Some illustrative examples from the research sites are elaborated in Table 3.



Table 3. Illustrative examples of how migration shapes household composition and impacts well-being. Numbers in brackets denote life history respondents. For more details on respondents, please see Supplementary Material A.

Household configuration	Impacts on well-being
Male household member commutes while social norms disallow women from commuting (K41)	 Higher workloads for women, expand spheres of labour (from domestic and agriculture to taking up marketing, irrigation). Higher drudgery for men who spend long hours commuting. Marginally higher income and higher subjective wellbeing.
Male household head migrates seasonally, women left behind	 Higher workloads for women, expand spheres of labour (from domestic and agriculture to taking up marketing, irrigation). Typically, male members return during agricultural season but burden on women increases, especially in lean periods.
Young, unmarried men migrate to large city, live in poorly serviced dormitories in peri-urban areas (G29)	 Typically migrate to pay back large debt or due to small, unsustainable landholding. Enter the city through networks into semi-skilled jobs to work as a carpenter, painter. Poor working conditions with frequent health impacts. Lack of saved money and social capital during shocks (e.g. accidents, sickness) means migrants travel back to villages often.
Entire family migrating to rural areas in neighbouring state (G31)	 Entire family works in brick kilns in unsafe conditions and without any social safety nets. Low wages undermine capacity to send remittances and working conditions result in poor health. Detrimental for women and children (who also work in the kilns) with increased drudgery and poor childcare facilities.
Entire family moves to big city (U3, U12)	 Higher workloads for women, who face expanded spheres of labour, decreased time for leisure, and tend to be mainly responsible for care-taking responsibilities. Can be emancipatory for women who take on new roles facilitated by intermediaries (e.g. U12, who took up tailoring through an NGO to make it a second household income).

Overall, migration typically involves higher workloads for women, whether they are left behind in the village or migrate into the urban. Migration interfaced with gender in three ways (as described below), and all these ways reinforced gendered labour divisions.

First, in families where the entire family moved, women spoke of expanded responsibilities. Thus, in addition to new income-generating work women did, they also typically undertook a crucial role in 'providing a sense of security and familiarity' (Rao, 2014, p. 874) in the new and often alien urban spaces they moved to. Second, women who commuted daily (observed only in Kolar) were inconvenienced since they had to travel large distances commuting to factories at a significant cost. With contractors and middlemen taking a cut in the wages to secure these jobs, net incomes from this commuting were low. Third, in some cases, men who migrated or commuted disallowed women from migrating since the women were needed to take care of land and livestock. Thus, it was common to find women undertaking agricultural labour work during peak farming season but staying in the village for the remaining 7–8 months per year without paid work (K23, Female FGD in Kolar). The women who stayed back in their village



reported several barriers when trying to earn a living, which undermined their incomes and necessitated increased labour. For example:

Quote 1: When the men migrate, we women tend to open shops to sell perishable goods. But we don't have any place to store the goods and incur loss. We also don't have physical space to sit and sell their produce, and regularly have to pay off the police and Panchayat members. (K24 Women's FGD, Kolar)

Quote 2: Woman have to do all household chores - cook, clean, care for children, go out of the village for labour work, milk cattle twice a day, fetch drinking water from far away. We do both agricultural and non-agricultural labour. Woman have to work harder...double load than men...but we get lower payment. Manual work can be very tiring and we hardly have any savings. Agriculture is no more profitable and feasible, and men are moving out of agriculture. So again, the field work falls on us women. (K27 Women's FGD, Kolar)

Quote 3: Once in three months there is a Gram Sabha, where women are discouraged to participate...vocal women are tagged as bad-tempered and quarrelsome, because they go to panchayat office and enquire about the schemes...(they) claim their rights of availing various schemes and programmes. Many women try to send their concerns through their husbands, but if my husband has gone to the city, who will speak for me? (K23Women's FGD, Kolar)

Those 'left behind' were not vulnerable in the sense that is commonly reported where they are projected as helpless. However, changes in their household composition meant they took up supplementary livelihoods, which tended to have financial (quote 1), physical (quote 2), and psycho-social (quote 3) impacts. In addition to this increased workload and drudgery, in the absence of a male member, some women lacked the voice and agency to represent household concerns at the community level (quote 3).

Changing livelihood configurations and the entry of new workspaces such as the factory floor also rendered familiar patterns of work, care, and leisure redundant - two quotes demonstrate:

We try to do agricultural labour and casual labour in the surrounding villages. We don't like to go as far as Bangarpet in search of employment. With rainfall decreasing, local tamarind trees are completely drying out; earlier we could make snacks, pickles out of them. Some women, in about 10 homes, used to work as flower stringers; now most of us travel to earn money. (K20, Women's FGD, Kolar)

Ten to fifteen people from this village go to the factory. It is not easy to get a job, and you have to be 10th pass to be eligible. Having contacts also helps. For tailoring they get Rs. 8500 to 9000 a month, a helper gets Rs. 7000. Men go to tin sheet making, thermocol or automobile factories. Earlier Chinnaya's mother and niece worked in the factory. Once the niece got married, she left, and the mother also left because she had no company. (K29 Social worker in Kolar)

Such quotes, encountered across the sites, demonstrate how changes in environmental factors and social structures have increased burdens of men and women, leaving less time for leisure. In the first quote, from a group discussion, we see how environmental change is driving livelihood shifts in tangible ways: old trees are drying, and associated livelihoods that were communal and could be done with less labour were disappearing. The dwindling of these local, communal livelihoods (stringing flowers, pickling tamarind) has meant that women have to find work out of their villages, increasing drudgery. In the second quote, a respondent highlights how new jobs in garment factories have allowed women to earn relatively high salaries. While getting the job requires contacts and being educated, the case of Chinnaya's mother demonstrates that women often leave these prized jobs when they encounter the factory floor and its unfamiliar, individualistic routines.

Just as changed household structures shape women's workloads and roles, they also highlight how young men, often ambitious but poorly skilled, move into precarious livelihoods and living conditions in cities (Table 3). Such multi-local or 'split-households' (Nguyen & Locke, 2014, p. 864) that straddle the city and the country are often seen as being able to avail of income opportunities in the city while falling back on extended support systems in their village. However, the life histories showed that young men are typically 'allowed' by their family to 'try' life in the city, usually going there with a regular migrant uncle or older brother. If the young man picked up a job, he stayed in the city; else, he returned to the village where he did agricultural wage labour or odd jobs in nearby urban centres. This return was usually seen as losing face, and young men preferred to stay in the city and 'rough it out', often with little pay, rather than return to agriculture. Underneath this hesitation to join agriculture was a shift in aspirations, echoing across people interviewed. For example:

Farming is for the old men. We own tractors, do sand mining, or work as plumbers, electricians. Farming is pointless because we don't have any rain. (K30 Young man in Malur block, Kolar)

We are being pushed out of agriculture because it is financially insecure. Poor rains since 2001 have been a primary cause for the reducing profitability in farming. (G16 Young man, Huvinahalli village, Gulbarga)

The youth are not interested in farming. They feel that "if they go to the fields, their hands will get dirty." (K33 NGO officer, Kolar)

The quotes showcase how, caught at the interface of increasingly uncertain returns from agriculture and a transitioning sense of identity, young men are particularly moving out of farming. These changing aspirations were echoed across the research sites: youngsters spoke of wanting to set up mobile phone shops, get an education, or migrate to cities such as Bangalore. Such aspirations point towards their 'continuous struggles and aspiration for building a respectable identity and for social recognition', in an attempt to 'challenge historically imposed hierarchies' (Rao, 2014, p. 873) and negotiate their rapidly changing risk landscape. Further it highlights growing disillusionment with farming as a viable livelihood as other research in India has found (Agarwal & Agrawal, 2016; CSDS, 2018; Suthar, 2018).

Changing household structures have implications for risk management

The various household structures discussed in Table 3 contrast sharply with typical vulnerability and adaptation studies in India that examine households as male- and female-headed (e.g. Kuppannan, Haileslassie, & Kakumanu, 2015; Sam, Kumar, Kächele, & Müller, 2016). Using the expanded list of household structures in Table 3, the implications of these altered household configurations on risk management strategies are examined in Figure 2. The figure depicts how migration type (rural to urban, rural to urban, permanent, seasonal, commuting etc.) and household structure (from only male migrating on the left to entire family moving on the right) shape risk management behaviour (bottom, blue cells).

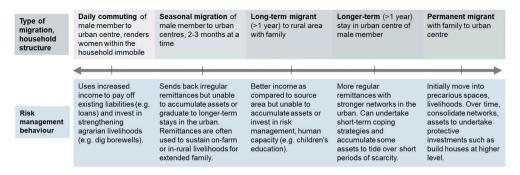


Figure 2. Implications of migration type and household structure (top, grey) on risk management behaviour (bottom, blue). Author construct based on life history interviews.

Risk management is understood as 'plans, actions or policies to reduce the likelihood and/or consequences of risks' (IPCC, 2014, p. 127) and is denoted by asset accumulation (e.g. savings, investing in education), risk spreading (e.g. taking loans from multiple sources), and diversification (e.g. expanding number of type of sources of income). Importantly, although the migration types are denoted as discrete categories, in reality, movement is seen between categories, with seasonal migrants often staying for longer periods if the opportunity arises.

On one end of the spectrum, permanent migration out of agriculture and allied livelihoods can help families move out of natural resource-dependent sectors and reduce their exposure to climatic risks. However, the life history interviews demonstrated that initially, rural-to-urban migrants move into precarious situations: they inhabit low-lying areas prone to local flooding (U3, U12); their housing is often temporary and illegal (U3, U12); they enter informal and often dangerous jobs (U4); they lack social networks to fall back on during idiosyncratic shocks such as illnesses or accidents; and face psychological stress through a 'pressure to perform'. Families that had migrated often spoke of being unable to go back because 'what will people in the village think, that we couldn't make it in the city?' (U5). It is only after decades of living in the city that migrants accumulate the social capital, political agency, and intimate knowledge of how to 'work the system' and are able to reap the benefits a city can offer (such as increased opportunities, broadening horizons, increased status in the village).

On the other end of the spectrum are men who commute daily (e.g. K41). While such families show an increased income that is not subject to agricultural cycles, commuting entails financial and time costs. In the middle of these extremes were households that either had a few members (typically) migrating to urban centres seasonally or one or two male members staying in urban centres semi-permanently, returning once or twice a year for festivals or emergencies. In both these cases, migrants were seldom able to accumulate assets and networks to overcome their present economic condition, and remittances helped cope with rather than overcome risks. Over time however, some migrants (e.g. U3) demonstrated moving to positions of more power, but these cases were seldom and more outliers than the norm. The critical implications of these floating populations or stretched households were reduced community cohesion, changing

social structures of reciprocity and kinship, and a transitioning sense of identity, especially for young men.

This, I argue, potentially has implications on collective local adaptation. First, fraying social ties directly undermine social capital and safety nets in times of crisis. Thus, common risk management strategies based on reciprocity and kinship networks such as of borrowing food in times of scarcity or sending children to a relative's household, were hardly reported in the study sites. Second, reduced community cohesion lowers incentives to protect common pool resources such as common grazing lands, village ponds, or collective forests. An accompanying 'atomisation of natural resources' (Solomon & Rao, 2018) means risk management is increasingly individualised and private, thus undermining the livelihoods and adaptive capacities of those left behind. Third, and perhaps most crucially, the movement of people and ideas across the rural-urban continuum has alienated young men from their agrarian roots, without fully assimilating them into their urban aspirations, potentially undermining their perceived ability to adapt at both source and destination. This finding is similar to studies of migrant fishermen in east India who found it 'hard to express "who they are" and "which caste or community they belong to", their sense of pride at being fishermen fast replaced by a 'deep sense of alienation' (Robson & Nayak, 2010, p. 275).

Across all these household 'types', what is common is that risk management behaviour draws on assets and agency in the rural and the urban. In this sense, responses are neither urban nor rural but 'beyond-local', traversing location and geographical boundaries.

Discussion and conclusion

Aspirational shifts and changing household configurations

Environmental change and aspirational shifts are shaping rural India dramatically with implications on the livelihoods people enter, the social norms they choose to adhere to, the household structures they configure into, the identities they associate themselves with, and the strategies they adopt to deal with the accompanying risks these changes entail. Moving is increasingly becoming a common strategy in rural India to manage risk, meet aspirations, and earn income (Singh & Basu, 2019). The outcomes of migration have typically been examined through the lens of poverty alleviation through remittances (De Haan, 1997), notions of justice (e.g. whether migrants have a right to the city) (Bhagat, 2017; Samaddar, 2016), and as a coping strategy to manage risks (Deshingkar & Start, 2003), including climate change (Neupane, Sivappha, Rubinyi, & Wang, 2016; Viswanathan & Kavi Kumar, 2015). The narratives from the present study show that migration is also shaping household structures in various ways, which have critical implications for intra-household dynamics and gendered well-being through, for example, changes in women's work burdens, health risks for migrant men (Section 3.2), individual identities, and risk management strategies (Section 3.3).

In reality, the implications of migration on changing household structures are complex and dynamic. Consistent with recent literature on migration in developing countries undergoing rapid transitions (Gioli et al., 2014; Nguyen, 2014; Nguyen & Locke, 2014; Rao, 2014, 2012; Rigg et al., 2018; Robson & Nayak, 2010), in the study sites, migrating and commuting led to a renegotiation of gendered and hierarchical positioning at intra- and inter-household levels. These negotiations operate within the rubric of social norms and tended to reinforce gendered divisions of labour - confining women to domestic work but also pressurising young men to meet expanding aspirations that they were poorly skilled and ill-equipped to meet.

Moving away from a static, either/or framing of households

Migration studies have repeatedly demonstrated that migration and commuting render household structures more fluid than typically conceptualised in studies around risk management that speak of male-headed and female-headed households. This recognition of 'domestic group pliancy and labile households' (Spiegel et al., 1996, p. 7) is not new, and while there is increasing scholarship on the emergence of multi-local households and members and networks living in and operating across different geographies (Benz, 2014; Nguyen, 2014; Sakdapolrak et al., 2016), studies in India, especially in the domain of climate vulnerability and adaptation studies, are conspicuous by their absence.

The empirical evidence presented in this paper attempts to fill this gap. It also challenges the applicability of binaries of male-headed or female-headed households or further differentiations of de facto and de jure households since they do not adequately capture the various combinations seen in households that have a member who moves. I found that migrant and non-migrant status within a household can change (Section 3.1), thus challenging the 'fixity on a division between the migrant and the leftbehind,' which obscures 'the ongoing processes by which the household organizes and deploys its labour for multiple purposes in response to shifting systemic conditions' (Nguyen, 2014, p. 1388).

These findings have critical implications for theory and methodology. Conceptually, they point towards developing a new lexicon of household types, one that recognises clusters of young men living in Bangalore's periphery, entering precarious livelihoods with negligible social protection, as well as translocal households where one to several members, typically male, may commute daily for long hours, thus spending more time outside than within the house and making decisions in absentia.

Methodologically, the paper highlights the need for expanding current survey-based tools to study migration (migration studies in India are notoriously driven by large-scale surveys) to include multi-sited ethnographical inquiries (Marcus, 1995) that capture the translocal and 'stretched' households (Hosegood et al., 2007), as well as the changing nature of Indian rurality (Thakur, 2014).

An expanded conceptualisation of changing household structures can help move away from 'remittances trend studies (that) largely understand "gender" as a synonym for "sex." (Gioli et al., 2014, p. 256). Thus, by capturing the range and dynamics of household structures seen along a rural-urban continuum in south India, this paper adds to the literature on translocality and its impacts on household risk management and well-being (Etzold & Sakdapolrak, 2016; Benz, 2014; Nguyen & Locke, 2014).

From household structures to risk management: implications for adaptation practice

The implications of changing household structures on risk management behaviour are complex (see Figure 2) and mediated by axes of social differentiation (caste, class, religion, gender), geography (rural/urban/peri-urban landscape), and politico-institutional context. In the evidence presented from Kolar and Gulbarga, I find that remittances are less likely to be used for investment in proactive risk management and are often stop-gap measures for poor households to repay debts and cope with everyday risks. This suggests that improvements to well-being through remittances must be supplemented by addressing wider, structural obstacles to development and vulnerability reduction, confirming similar findings in other regions (De Haas, 2007; Wrathall & Suckall, 2015).

In adaptation research and practice, donors and governments are increasingly responding to calls of supporting local adaptation that is community-based and contextual (Kirkby, Williams, & Hug, 2017; Nordgren, Stults, & Meerow, 2016). While it forefronts important aspects of adaptation such as implementing strategies that are locally relevant and co-produced by vulnerable communities, it has been criticised for being 'overly localist in approach' (Forsyth, 2013, p. 439). The findings in this paper also caution against the danger of current adaptation interventions as being 'overly local'. Against an expanded understanding of households as multi-local and drawing on translocal livelihoods, I argue for an expanded conceptualisation of adaptation processes as well. If we are to see migration as contributing to household well-being and adaptive capacity, it follows that 'local' adaptation can be broadened by placing 'local' adaptation in a pluralistic web of interdependent 'local' adaptations in other places.⁷

Notes

- 1. Here, well-being is understood as material (typically economic, asset building), subjective (perceptions of quality of and satisfaction with life), and relational (well-being in relation to others, typically in a community) (White, 2015).
- 2. These projections are for the 2021–2050 period under the A1B scenario, which supposes population peaking by mid-century, balanced energy systems, and very rapid economic
- 3. Male and female FGDs were conducted separately to allow for unrestricted conversations. In the scoping visits, mixed-gender FGDs had proven unsuccessful, and women tended to remain silent in front of men, in keeping with gendered social norms.
- 4. Supplementary Material A details all sixteen life history interviewees.
- 5. Supplementary Material B discusses different types of migrants and Census of India definitions on what a migrant is.
- 6. Calls for moving beyond gender disaggregated data and focussing on intra-household dynamics have been repeatedly made by feminist scholars (for example, Lahiri-Dutt, 2015) but are rarely attended to in climate change research (Jerneck, 2017).
- 7. This idea of expanded 'local' adaptation is inspired by (Benz, 2014, p. 261) who discusses how the idea of 'local' development needs to be seen as influenced by 'local' developments elsewhere.

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No potential conflict of interest was reported by the author.

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