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Of Rurban and its Waters

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A thesis submitted for the degree of Doctor of Philosophy

Department of Geography

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Abstract

Using a qualitative approach and a case study method, this thesis advances the conceptualisation of rurban and contributes to the understanding of corresponding rurban water governance. In the context of Haldwani, a small city in the Kumaon Himalaya of Uttarakhand State in India, it is argued that a rurban space may or may not be at the immediate periphery of the urban centre, and it may or may not become urban. In this thesis rurban is conceptualised through the flows of goods, services, and resources between rural and urban. It is seen as a construct that is process-based and not an entity that is socio-organisational; it is studied through processes that lead to its creation and not as a state of being, or a way of life; as rurbanisation and not as rurbanism. In studying rurbanisation, emphasis is laid on enhanced historical sensitivity towards the economic, socio-political, and demographic foundations of rural-urban changes.

In the dynamic context of rurban, a corresponding ever-evolving water governance is established. Institutional bricolage is used as a conceptual tool to unpack the water governance in rurban Haldwani. Rurban water governance is imbued with the agency of the users and is characterised by 'thick' institutions made by piecing and layering of historical, contemporary, traditional, customary, and statutory practices, norms, rules, and codes of conduct. The research captures changes in everyday practices and logics surrounding water access and use, as well as the meanings locals ascribe to the shifting spatial contexts of rural-urban interaction.

This study paves the way for future studies on rurban resource governance, with a greater acknowledgement of the role and agency of rurban residents in making of the rurban space, and in (re)creation of institutional arrangements around resource use and access.

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Statement of Copyright

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Chapter 1 Introduction

1.1. Introduction

This thesis is about rurban and its waters. It does two things: first it extends the conceptualisation of rurban in the context of a small city in India; second, it unpacks water governance in such a rurban space through the lens of institutional bricolage.

A significant proportion of the population in the global south¹ resides in places that are neither rural nor urban but rural-urban, territories that have densely inter-linked villages and small cities (Berdegué & Proctor, 2015). Development policies for urban and rural, however, tend to underplay complementarities between the two (Berdegué & Soloaga, 2018), and studies of rurban fall through the cracks between the academic enquiries of the rural and the urban (C. Singh, 2022). This thesis posits that the outcome of rural-urban fusion is a unique modality, the study of which requires a new vocabulary. The term peri-urban is eschewed considering its etymology. The root word peri is derived from Greek, meaning 'around', thus peri-urban becomes around-urban. The term rurban, rural plus urban, signifies that this study acknowledges the part played by both rural and urban in the making of rurban. It is argued in this thesis that reviewed literature furnishes limited detail about how does a rurban place come to be so. To address this gap this research examines multi-axial logics which bring about rurbanisation in context of Haldwani city. It is proposed that rurban be seen also as a concept and as a process rather than merely as a place.

¹ Global south can be understood in three ways. One through the region-wise division of the world according to which Asia, Africa, and Latin America form the South (Mitlin & Satterwhaite, 2013). Second, as comprising of regions or countries whose inhabitants live in vulnerability and poverty (Simone & Pieterse, 2018; Bhan, 2019). Third, as a 'concept-metaphor' which is applied to represent places of dispossession and marginality around the world (Sparke, 2007).

To conceptually grasp the relation between rurbanisation processes and water governance this thesis empirically illustrates how waters of a rurban space intersect with the continual and multidimensional changes in demography, land-use, and occupational pattern. In a changing context that is rurban, the uses and controls of its water continually change too. We live in a world, a quarter of which faces very high levels of water stress, withdrawing about 80% of its available supply by industries, agriculture and municipalities (Hofste et al., 2019).

Overarching research question: How does rurbanisation influence water governance in the context of a small city in India?

To address this question, I further ask:

Sub-Question 1: How do the processes of rurbanisation unfold in rurban Haldwani?

Sub-Question 2: How do institutions governing water use and access emerge and evolve in rurban contexts?

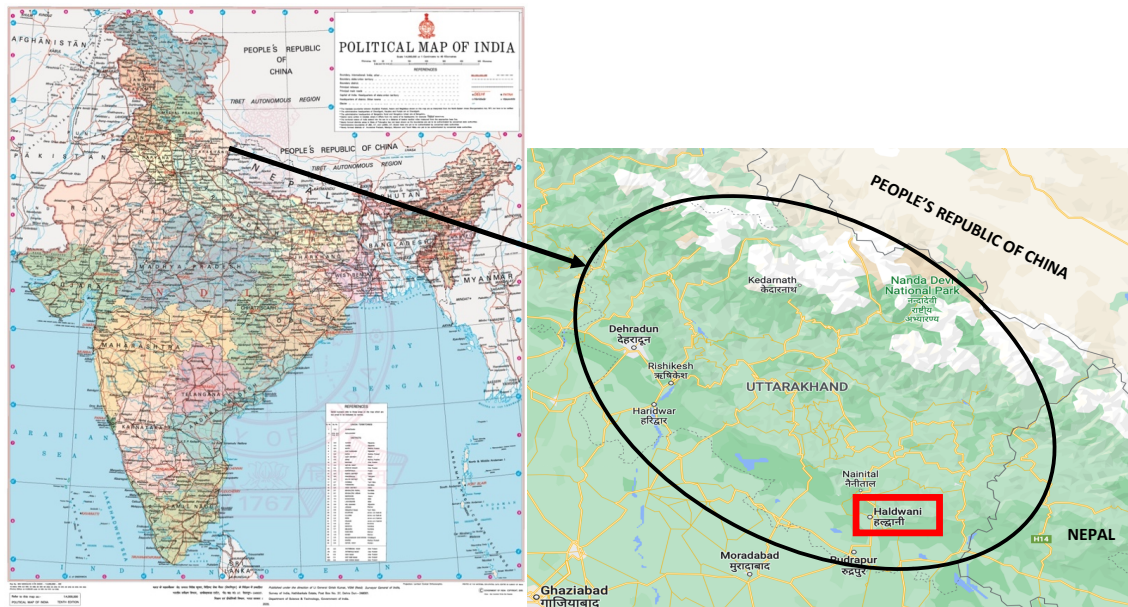
This study is based on qualitative data, following an interpretive approach and using a case study method (Yin, 2014). A case study aims at analytic generalisation rather than statistical generalisation. This means that the case study helps in generalising at a theoretical or conceptual level. This study, as a situated rurban research, takes into account the theoretical and methodological insights of global south scholarship (Tzaninis et al., 2021) for example giving due importance to the study of everyday life of those being researched (Schmid, 2018; Leaf, 1999; Labbe & Boudreau, 2011; Loftus, 2012; Gururani, 2002; Labbe, 2011; Truelove & Cornea, 2021). The perspectives of case study participants weave through the length of this thesis to inform a grounded knowledge production, and to challenge the assumptions of existing rurban literature. This is done bearing in mind that the

knowledges used to generate governance directives impact the practices that are enabled.

1.2. Research Site

In rural research pertaining to governance of natural resources, it is challenging to delineate what constitutes as urban resource and what rural. The rural-urban divide, in case of the river for instance, is blurred (Newell & Cousins, 2015). Flows of river Gaula, the mainstay of Haldwani's water supply, provide for a real and conceptual link between the rural and urban, and guide this study that explores how the process of ruralisation influences the institutions governing water in the rural context. Its flows establish both linkages and impacts that can be spatially defined. Being a forest river, Gaula does not have a single categorical source. In that light, the lakes and spring of Sitapur village provide visible and substantive inflow to the Gaula. As a critical source of river Gaula, Sitapur village can boast of a direct source-user relationship with Haldwani.

This is not the only criterion for selecting Sitapur as the rural site however. It exhibits competing water uses because water is needed both for household purposes and varied commercial uses. Moreover, Sitapur holds other strong linkages with Haldwani, such as the movement of its residents into Haldwani - for employment, medical facilities, education and other important requirements. Reachable through a 39 km uphill drive from Haldwani, Sitapur village also challenges the notion that rural exists at the immediate boundary of the city.



Map 1: Political map of India zoomed in to locate Haldwani in Uttarakhand State, that shares international borders with China to its north and Nepal to its east. **Source:** adapted version of Survey of India (English 10th Edition/2020) and google maps

1.2.1. Haldwani

Haldwani is the small city in context of which rural is explored. It lies in the south of the State of Uttarakhand, in the north of India. Geographically situated in the boulder-strewn belt of *bhabar* region, to its north contiguous with the Lower-Himalayan hills and to its south stretching into the plains of Tarai. Haldwani has historically been a transit point for traders, travellers, and summer settlement for seasonal migrants. Always a crucial link in the mountain economy, modern Haldwani is the gateway into the Kumaon region. All goods and services exchanged between the plains (of Tarai and further Gangetic Plains) and the mountains (of Kumaon) pass through it. Demand generated in the mountains therefore feeds into the city's growth as a supply centre. The current population of the city is a heterogeneous mix of people from different religions and ethnicities, for sections of it settled in successive waves of migration that were triggered by critical socio-political events in Haldwani's history. There are two main sources of water supply in Haldwani, the borewells and the Gaula river. Of these the former run dry during summer months, making Gaula the most essential artery that perennially sustains Haldwani.

1.2.2. Sitapur Village

Located in the lower Himalaya, featuring subtropical broad-leaved forest, Sitapur is a revenue village², the smallest administrative unit in the Indian polity. It comprises of two hamlets, Sitapur *malla*³ (upper) and *talla* (lower), and a place called Dodital that is characterised by lakes. Resorts and cafes that have appeared in the last decade impose a heavy demand on the water resources for commercial use. Along with the water department's piped supply, many of these resorts also appropriate water through private borewells, and motors installed on the river or on distant springs.

1.2.3. Dodital

Dodital is at the bottom of the north-facing hill atop which is perched Sitapur *malla*. Dodital is an area that houses over half a dozen interconnected lakes. Now a bustling tourist spot, and home of immigrants from big cities, Dodital used to be a place for villagers of Sitapur *malla* to graze their cattle, wash clothes and utensils, and haul water for drinking. Historically, the water of the lakes naturally flowed out through a stream that fed the *Balia* river, that merges into Gaula river. In its attempt to deliberately settle Haldwani, the British government in India dammed the Dodital lake (Atkinson, 1884/2014, vol.3). In the last decade or so, Dodital has developed as a tourist spot, its lakes now used for tourism and adventure activities.

1.2.4. Sitapur malla

Sitapur *malla* is the hamlet located 300 metres uphill from Dodital. Locals trace back the settlement to at least three centuries. Residents used to meet their water needs through the Dodital lake and through a spring located a few metres below the village on the slope of the

² A Revenue Village is an administrative nomenclature for a village that the State government in India derives some revenue from, either from land or other resources. The boundary of such villages are surveyed and well defined. In many cases, a revenue village consolidates several hamlets.

³ As per local nomenclature for settlements, villages on the same slope often bear the same name, qualified by a suffix or prefix indicating their relative position. The common qualifiers are: *malla* or *malli*, meaning situated at a higher altitude; *talla* or *talli*, meaning situated at a lower altitude; and *walla* or *palla*, meaning situated on either flank of a stream. Two parts of a village do not co-evolve; one is pre-existing and the other emerges from it.

ridge. In the last 15-20 years households have been outfitted with pipe connections, that are supplied through a state-installed borewell near the lake. Agriculture has always been rainfed in *malla*.

1.2.5. Sitapur talla

Lower Sitapur is a 45-minute downhill hike from *malla* on the south-facing slope. It is a more recent settlement, of about 100 years or less. Residents of *malla* who used to descend the slope for tilling, over time they made permanent settlement in *talla*. The spring, a little higher on the slope than the village, is a perennial source of water, which is drawn on for both irrigation and drinking purpose. For drinking residents mainly use the spring water received through piped supply. For irrigation, a grid of *guls*⁴ is spread over the village. With a perennial source of irrigation, *talla* is the only locus in Sitapur village, that can speak of steady agriculture reaping two-three crops per year.

Despite the inevitable comparison manifest in the data from the different loci of the rurban site (*malla*, *talla*, and Dodital), the research does not aspire to be a comparative study. Each locus has unique conceptual importance allowing for stronger substantiation of the research enquiry (Walford, 2001). The study leads to the understanding that in the Lower Himalayan context, hamlets within a same village (two parts of the same village) may experience the influence and impact of rurbanisation processes (land use change, migratory flows, diversified occupational pattern) differently.

1.3. Background: Key Themes

1.3.1. Rurban

India is particularly well placed to offer insights on the function and expression of rurban areas, because of the part it plays in global rural-

⁴ A traditional Himalayan irrigation system where water is diverted from a rivulet, stream, or a river by damming the flows and then directing the water through smaller channels. The fields are at a lower elevation which allows the water to gravitationally flow to the fields. Mostly farmers take turns to irrigate, regulating the flows in the process. They system is steeped in intimate knowledge of the region, perfected over generations.

urban changes. According to Baeumler et al. (2021), 75% of the global population will be residing in urban areas by 2050 and a majority of this urbanisation will take place in Asia and Africa. The United Nations (2018) estimates that the urban population in India will increase by 416 million between 2018 and 2050. At present India accounts for 11% of the world's urban population, a percentage higher than that of other highly urbanised nations like Japan and USA, and regions such as South America and Western Europe (NITI Aayog, 2021). There is evidence that theories of urbanisation based on the historical experience of the developed world cannot accommodate the dynamic rural-urban changes in the global south (Rigg et al., 2016), especially at the micro-level where plural and heterogenous livelihoods trouble the neat divide between rural and urban livelihoods (Djurfeldt, 2021; Ward & Shackleton, 2016).

Rurban spaces are not only increasingly important in shaping the nature and experience of urbanisation worldwide, they are sites of rapid change, transition, contested resource use and conflicts in the face of degradation of water and land resources (Narain & Singh, 2017a; Iaquinta & Drescher, 2000; Friedmann, 2016). Complex and continual social churning is taking place in the rurban. Despite the growing importance of rurban geographies to the nature and dynamics of urbanisation itself, there are to date few studies that focus their attention on these kinds of rural-urban spaces (Van Duijne, 2019).

There are three courses of urban population growth: in-situ increase of population in urban areas, rural-urban migration, and reclassification of rural areas as urban areas (United Nations, 2019; Leaf, 2016). Growth in urban population in India is not so much due to rural-urban migration, but due to urbanisation of secondary cities. Correspondingly the 2011 census reveals a decline in the population growth rate (as compared to 2001 census) of urban agglomerations of big metropolises: population growth slowed in Delhi from 52.4% to 26.6%, in Mumbai from 30.47% to 12.05%, and in Kolkata from 19.6% to

6.87%. Small towns in the same duration have continued to grow. Over 30% of the increase in urban population between 2001 and 2011 can be attributed to census towns (NITI Aayog, 2021). Sircar (2017, p. 229) argues, 'dominant epistemological frameworks such as the official census' do not capture the complex social reality and historical development of census towns.

It is more relevant therefore to study these new loci of urbanisation as opposed to the established urban centres. Undergoing rapid urbanisation, secondary cities of the developing south are experiencing unprecedented pressures on their natural resources. Studying them promises new vantage points into modes of everyday living and livelihoods that will shape and define the rurban in the coming years.

Rurban is seen as a derivative of urban, evidenced by most rurban work featuring in urban scholarship. A strong urban gaze prevails⁵ in the study of rurban areas; always measured against the urban, rurban areas are expected to increasingly become more and more urban. Being boxed into either rural or urban scholarship goes against the grain of rurban, which expresses itself as rural-urban fusion. This study attempts to widen the theoretical ambit of rurban. It empirically explores the extent to which rurban expression is underpinned by an urban impulse and finds that both urban and rural play active, constitutive roles in creation of rurban, thus neither can lay exclusive claim on it.

1.3.2. Small City

Even though small cities accommodate most of the urban population in India (Swerts, 2017; Khan, 2017), most rurban academic research has focused mainly on metropolitan cities such as Bengaluru, Chennai, Mumbai, and Kolkata to name a few. These cities expanded and supplied their burgeoning resource demand by drawing upon resources

⁵ See the recent thematic issue, *Engaging the Urban from the Periphery, 2021 in South Asia Multidisciplinary Academic Journal*

of peripheral villages (Ranganathan, 2014; Shaw, 2004; Mitra & Banerji, 2018; Pradhan, 2017; Janakarajan et al., 2007). Theorisation based on these overstudied and overrepresented cities and the consequent decision-making through urban and regional planning policies do not neatly apply to small cities that are different socio-culturally and socio-spatially (Ruszczuk, 2022). By taking the case of Haldwani, a gateway city in the Northern State of Uttarakhand, India, this study advances the understanding of how rurbanisation unfolds in small cities and how water is governed in its rurban.

Zérah and Denis (2017) urge embarking on a study of small cities not only in contrast to big cities but for themselves. Small cities take on a greater significance in countries where a majority of population is rural. Such cities often assume the role of consumer for the produce of the nearby rural centres as well as provide an avenue for non-agricultural employment. Rurban surroundings thus become more relevant for these small towns since spatially they are more embedded therein, while urban hierarchies become less relevant.

1.3.3. Water Governance

India's water stress is disturbing when we consider that about three quarters of its households do not have a potable water source on their premise. NITI Aayog (2018a) estimates about 600 million people facing high water stress. In water quality index among 122 countries India stands 120th, 70% of its water is contaminated, and by 2030 water demand is likely to be double the available supply. Besides implying severe impairment in public health, and increased loss of life, these projections also foreshadow a loss of 6% in India's GDP (2030 Water Resource Group, 2009).

Water's fluidity lends it a symbolic significance, befitting it to the purpose of studying the wider socio-ecological rural-urban flows (Narain & Roth, 2021). Use of water in most economic and social activities make it a fugitive resource and no single policy can claim to

encompass all of water's diverse circumstances. Water governance therefore has to contend with intersecting structures, practices, traditions, norms, administrative and political rules, and codes of conduct through which interests of stakeholders are articulated and decisions taken (OECD, 2015; Woodhouse & Muller, 2017). There is also increasing recognition of social power relations situated in the everyday which display relational and diffuse power across different actors, engendering fluid and hybrid arrangements for governing natural resources (Truelove & Cornea, 2021; Truelove, 2019). Fallon et al. (2021), for example, propose understanding the dynamic process of water governance as emerging from the intersection of and circular relationship among four dimensions; participation, science, practice, and policy. They see these four dimensions as corresponding to different epistemic communities⁶, and reveal forces of governance such as norms, values, information and discourses that veiled from the view often behind bureaucratic institutions (Baumgartner & Pahl-Wostl, 2013). Within the dimension of practice, Fallon et al. (2021) admit the role of routinised behaviours of water users that stem from their agency and social context.

Scholarship is becoming increasingly aware of the role contexts play in shaping water governance i.e., addressing challenges of water require sensitivity to local economic, political, technological, cultural, and ecological circumstances (Brugnach & Özerol, 2019; Pahl-Wostl, 2015). This thesis studies water governance in rural Haldwani, which is located in the Outer Himalayan region. In the region, supplying the water needs of its people for millennia are the arteries of the Himalaya, its numerous streams and rivulets that emerge from the forest after originating at mountain springs. These, mostly perennial springs that undergird the socio-economic and ecological make-up of Himalayan life, are fast drying up. Half of the springs are either completely dried up or have become seasonal (Scott et al. 2019). Ecological disturbance

⁶ Epistemic communities are networks of people or experts who share perspectives, preferences, and competencies about a certain policy problem within their domain (Haas, 1992).

is a critical element of water insecurity and consequently of water governance in Sitapur village (rurban Haldwani). Challenges in water governance are not merely complicated but complex, and what this complexity entails is delineated by the present study through a critical institutional lens. Some elements that make Sitapur's water governance challenging are uncertainty, intersecting scales, interconnection with other resources and livelihood practices, and perspectives of various actors. Historical continuities in water practices can also be used to garner insights into the current issues of water reform, and to effect practical and equitable solution (Wescoat et al., 2021).

Scientific objective knowledge is beginning to be acknowledged as insufficient in capturing the complex nature of water problems, while the inseparability of context and knowledge is progressively accepted (Rodina et al., 2017; Brugnach & Ingram, 2017; Menga & Swyngedouw, 2018). This is evident in a growing body of ethnographic and other work around issues of rurban water security in India (as examples, see Narain & Prakash, 2016; Vij & Narain, 2016; Janakarajan, 2008, Halkatti et al., 2003). That said, the complex water-society relations in rurban contexts, including the role of social and power relations in structuring the institutions that shape water access require more attention. These peripheral waterscapes are relatively 'undertheroised' in urban and rural planning (Mehta & Karpouzoglou, 2015); and in particular how they unfold in smaller cities.

1.3.4. Institutions

This thesis draws some of the emerging understanding of rurban from studies that emphasize the underlying institutional context of the rurban rather than simply its location in relation to the city, studying rurban as a process manifest in the two-way flow of goods, services and resources between the rural and urban (Gomes and Hermans, 2018; Narain & Roth, 2021). As rurbanisation continues apace,

patterns of resource use and appropriation evolve, creating new inequities in terms of the distribution of and access to water. The global crisis of water scarcity has come to be acknowledged as rooted not in physical availability but in poverty, power, and inequality (World Water Assessment Programme [WWAP], 2013; Rogers, 2006; United Nations Development Programme [UNDP], 2006). Institutions provide a critical mediator for these dynamics and for shaping a more just resource governance. Yet current understandings of the institutions that govern emerging water resource needs and conflicts in rural contexts is limited both conceptually and substantively.

Water institutions in the rural are best explained through a critical institutionalist lens. Amenable to a rapidly changing context such as rural, institutional bricolage helps identify the myriad ways users re-create rules of access. The plurality of arrangements in a rural space besides coming from customs, traditions, codes of conduct, and norms, also come from the overlapping jurisdictions of various state departments from both urban and rural administrations. Furthermore, exploring the *hows* of institutions' working throws up plausible explanations about their non-inclusivity. Shunglu et al. (2022) explain with the case of underperforming community participation projects in Sri Lanka that social hierarchies and ideological divisions among community members prevented inclusive participation in water management programme. Local power structures interact with resource use to create norms that enjoy a wide base of acceptance but are not necessarily just. With the changing demographic make-up of rural areas some social and power relations are reinforced while others are obscured. Cleaver et al. (2021) admit worldviews and cosmologies as sources of agency, that continue to animate decisions around water.

1.4. Contribution

This thesis contributes to human geography through a conversation between the two bodies of knowledge, rural geography and urban geography, to highlight the rurban. At the centre of this conversation is environmental geography and its sub-field of natural resource (water) governance.

My contribution is to give a situated analysis of rurban change in context of a small city in the global south, arguing that rural-urban change here is distinct from that occurring on the peripheries of metropolises that tend to be studied through Anglo-North American theory. Rural-urban changes (rurbanisation) are often shown as largely emanating from neo liberalisation (see Narain & Prakash, 2016), e.g., poor farmers losing out to private businesses and individuals who can acquire large land parcels in the wake of commoditisation and formalisation (Abdulai et al., 2020). In different locations however rurban change plays out differently and leads to diverse spatial signatures (Follmann, 2022).

Moving past the present understanding of rurban as being 'on the receiving end of urban expansion' (Narain & Prakash, 2016, p. 5) and as destined to become increasingly urban (Simon, 2020), rurban is emancipated from the urban gaze and is shown as actively leading its own change. Narain and Singh (2017a) explain how policies for urban expansion do not meet with passive recipients in rurban communities, but with actors who actively identify opportunities and avert loss thereby effecting 'institutionalisation' of new norms around resource use and access.

Rurban as proposed in this case study will conceptually approximate to other small city contexts in the global south, and in future studies be refined, either rejected or consolidated. Theory is however not an end in itself, but an intellectual opening, one that must be subjected to

verification (Yin, 2014). This thesis also contributes to the epistemology of geographical knowledge production, making a case for decentring it, and situating it in history and in the everyday.

This study contributes to the growing body of critical water studies, empirically illustrating how structure and agency interact (Mollinga, 2019) by using a critical institutionalist approach to study how water governance is comprised of multifarious practices: historical, contemporary, traditional, customary and statutory, and how users resort to familiar ways of doing things when faced with a change in or introduction of new rules and regulations. A study of practices not only sensitises theory to everyday dynamics but also to changes that occur over time. As a critical water study this work uses everyday analyses to foreground polycentricity of water governance, multiplicity of water sources, uses, arrangements of access, allocation and appropriation, and of water infrastructures.

1.5. Thesis Outline

This thesis is structured in 7 chapters, including this introduction.

Chapter 2 fleshes out the methodological choice of using a case study. It throws light on the challenges of engagement with and involvement in the field, especially highlighting the spectrum of ethical and moral dilemmas of the fieldworker. Positionality of the researcher, the limiting effect of subjectivity on the data collected and consequently on the findings is acknowledged. Apposite accounts from the fieldwork period are presented to provide context for the various stages of engagement with the field. The section on data collection elaborates on how different tools were wielded and had to be modified in response to field conditions. Relevant challenges and lessons along the way find their own section that shows their impact on research process and on methodology.

Chapter 3 gives a *longue durée* of history in the Kumaon region to situate Haldwani physically, socio-politically, and economically. The long temporal frame is employed to introduce different logics involved in the making of Haldwani. Thus, a historical-analytical perspective is brought to bear upon the conceptualisation of rurbanisation, the first step in which was to re-work pre-existing understanding to accommodate the varied and changing small city in the global south. History helps situate different patterns of flows of goods, services, and resources to and fro, as well as through Haldwani over the centuries, and helps unpack the multi-layered resource governance in and around Haldwani. The approach is geographical in its underlining the multiple scales of resource governance. The multiple regime changes (change of guard from ruling dynasties to the British and later the independent Indian state) are followed to note corresponding modification in resource use institutions, leading to a thick institutional space with a plurality of infrastructures, stakeholders and uses, governed by equally plural sources of legality, thus furthering the understanding of rurban. provides empirical support to the proposed concept of rurban. Insisting on an outside-in optic for studying rurbanisation (Keil, 2018), the empirics question the centrality of the city, reinstate agency in the rural that influences and participates in rurbanisation, and extend the scope of term rurban beyond the limited and linear understanding of adjacency to city boundaries, to benefit settlements lying a considerable distance outward from such boundaries, e.g., Sitapur village.

Chapter 4 provides the conceptual framework for the thesis. It first reviews rurban literature and reworks the existing understanding of rurban in a stepwise manner. It finds a preponderance of place-based conceptualisations of rurban i.e., rurban as existing on the periphery of the city. An argument is made for seeing rurban as a concept and a process rather than primarily as a place. The rural-urban dichotomy in state classification is critiqued for inconsistency and failure to capture the dynamism of the rural-urban fusion process. Dependence on the parameters of population size and density, and proportion of males in

non-farm employment is questioned. A case is made for the rural-urban nexus instead of rural-urban continuum, such that rural is not defined by its spatial distance from the urban, but by the interpenetration of the two spaces that (re)defines the resource flows and practices. Finally, rural resource governance is shown to consist of pluriform resource governing institutions. Institutions are understood as dynamic mediators between natural resources and society, individuals, and communities (Cleaver & De Koning, 2015). A brief review of relevant literature is presented to contextualise critical institutionalism. The lens of institutional bricolage is used to analyse how new institutions interact with existent ones on the ground in a rural space, and what are the governance outcomes of such an interaction. The role of agency, worldview, social and power relations of bricoleurs is defined in how they hybridise customary, statutory, traditional, and other institutions, to produce rules that are adapted to local realities.

Chapter 5 empirically explores the three broad processes of ruralisation viz land-use change, migratory flows, and changing occupational pattern that feedback into one another. It is found that these processes are actively being led by the locals. Influx of residential tourists (amenity-based migration) in and concurrent outflow of locals from Sitapur village is located both in the historical migratory flows in the region and in the current larger trend of the changing demographic make-up in the Kumaon. Three broad land-use changes resulting from in-migration are observed: second homes of the well-off; resorts, villas, hotels and cafes for tourism (especially the newer variants that capitalise on ecotourism); and speculative investment in view of the above two factors. Land-use change is made possible as locals are selling their land, capitalizing on the heightened demand due to amenity migration. Disillusioned with the unviability of land-based economic activities of agriculture, animal husbandry and forest use, locals are actively changing their livelihood portfolio. Gendered implications of such change are acknowledged and explained. The

chapter also discusses the compounding effect of climate change on the three processes. The conclusion rallies empirics to substantiate tenets of the concept of rurban as forwarded in this thesis.

Chapter 6 presents the empirics for the second research question. The waterscape of Sitapur village comprises not of a distinct water source, but of hundreds of springs, that form dozens of streams, that drain into the lakes. Such disbursed nature of water necessitates tracing water in many different social and economic activities. The chapter zooms in into the field, past the observable use of water sources i.e., the lakes and the springs and past the ageing infrastructure of the Dodital Dam, to detect pipelines private and public, scores of pumps, water-tankers and more. The plurality of water governing institutions in a rurban space and implications of such plurality on decision-making around water is demonstrated. By building on Frances Cleaver's work on institutional bricolage, the chapter examines how situated water institutions are structured (emergence) shaped by the hydrology of the region as well as the worldviews and social identities of actors. It also explains how institutions are re-structured (re-emergence) in response to the processes of rurbanisation, and how social and power relations mediate such restructuration.

Chapter 7 concludes the thesis, captures its essence, and positions it in the wider debates of both rurban and water governance literatures. The conclusions of preceding chapters are synthesised and brought to dialogue with recent rurban and water policies in India. The conclusion also evaluates the approach taken and proposes relevant directions for future research.

Chapter 2 Dancing with the Field: Engagement, Failure and Challenges in the Kumaon Himalaya

2.1. Introduction

For answering the questions of *how* and *why* emerging in a real-life context (Baxter & Jack, 2008), about the little understood process of rural water governance, the case study method used in this research is explained by detailing the methodological choices made in the process (Meyer, 2001). The design of this study aims at advancing theoretical explanations of rural water governance by highlighting gaps in the existing theory (Ridder, 2016). The empirical results of the study are juxtaposed with existing theory, modifying it. The chapter addresses considerations of design, data collection and analysis, reliability, and validity of the case study. This study takes cognisance of the caution by Friedmann (2016) that little high-flying theorisation is possible for rural and that rural studies are necessarily based on field research. Field research is also suited to the aim of the study which is to understand everyday practices and logics surrounding water governance in rural areas through the data gathered in the course of fieldwork, an attempt has been made to connect the empirical case to broader conceptual concerns that 'situate' the interplay of unequal power relations shaping differential access for and within different societal groups, households and intra-household (Truelove, 2019; Narain, 2014).

The PhD occasioned extended stays in the field (in total I conducted fieldwork in four villages, all of which comprised of different hamlets). Before the first Covid lockdown in India, between October 2019 and March 2020, I had conducted 2 participatory rural appraisals, 2 focus

group discussions, 3 key informant interviews, and a total of 36 semi-structured interviews in Haldwani, villages in eastern and western peripheries of Haldwani, as well as in Singola and Sitapur villages. In this round I would spend ten days on the field and return home for replenishing supplies. Upon analysis of data from the first round, Sitapur village emerged as the most theoretically relevant rural site. I could only begin the second round of fieldwork after a gap of one year and four months, multiple covid waves and a double vaccination. As a local resident of Uttarakhand State I faced no travel restrictions and lived fulltime in Sitapur between August and December, 2021, to write this thesis and to conduct interviews to fill gaps as and when they emerged. 15 semi-structured interviews were conducted in this round. Being stationed in the field fulltime enabled sharing in the rhythm of local life. I was also compelled to think if immersion in the context is a function of time after all. And if so, just how much time suffices for a reasonably comprehensive understanding of the context for the purpose of one's research. Besides, whenever circumstance permitted, between October 2019 and 2022, I travelled in a wide area in the Kumaon region of Uttarakhand, observing the built-environment (land use change) and also talking to people about livelihood practices and migratory flows.

The chapter attempts a self-critical and reflexive account of the fieldwork, detailing the stages of the process of research to address the commonly raised concern about how much qualitative data veils the actual research practice that unfolded on the field, how different techniques were used and refined, which analytical strategies had to be combined, in short, how it all went (Hitchings & Latham, 2020; Pitts & Miller-Day, 2007). It is also to be noted that this chapter reflects upon the research process as a whole, drawing upon insights from the time spent in research sites other than the main site of Sitapur village.

The outline of this chapter is as follows: After introduction, the second section explains the case study method as used in this research.

Section 2.3. defines the case. Section 2.4. details researcher-case interactions and negotiations through four subsections, the first of which deals with researcher positionality. Next two sub-sections describe the stages of entering and aligning with the field. Sub-section 2.4.4. presents the complexity of obtaining and maintaining trust and rapport with the research participants. Data analysis and collection are dealt with in section 3, its six subsections elaborate on data collection tools employed. Section 4 details physical challenges in the field, bureaucratic challenges during data collection, and mental challenges exacerbated by the pandemic. The chapter closes in section 5 with reflections on rhetoric and reality of ethics of a fieldworker.

2.2. Case Study

A case study method was chosen to glean and analyse in-depth data about the phenomenon within its context, and answer questions beginning in *how* and *why* (Yin, 2014; Maharaj, 2016). In the present study the context influences the phenomena under study i.e., rurbanisation influences water governance in the rurban. Explaining the case study method, Merriam (1998, p.6) holds that 'the key philosophical assumption upon which all types of qualitative research are based is the view that reality is constructed by individuals interacting with their social worlds'. To explore the users' perspectives and the influence of socio-political changes on water practices, this case study is multi-perspectival and its rigour and validity derive from the multiplicity of sources from which data are gathered. (Jacobsen 2002, as cited in Wikfeldt, 2016) refers to case study as an intensive study, whose internal validity is high owing to the descriptively accurate data about multiple contextual variables. These variables, or attributes studied must be relevant to the research (Kennedy, 1979). The merit of case study lies in bringing out the unique and the particular, which is why there rages a debate about the generalisability (Woodside, 2010; Sharp, 1998; Tsang, 2014) and external validity of its findings (Huberman & Miles, 2002; Byrne & Ragin, 2009).

The generalisability of case studies is perpetually under question since findings of a particular case may not automatically be useful to other cases and contexts. Unlike findings of quantitative studies that can be generalised for populations, results of a case study can be applied - transferred - to other similar cases through deep analytic investigation. A case study can lead therefore to analytic and not statistical generalisation, and its results are not seen as statistical 'proof' but as thematic outcomes that contribute to construction of a theory (Yin, 2014). Outcomes of later case studies may confirm or denounce the theoretical baseline thus making the theory rigorous (ibid).

The present study which deals with the urban of a particular small city (Haldwani) therefore vulnerable to the same criticism that is the lot of case studies i.e., it does not offer statistical inferences that may be used to explain the urban of other small cities. That doesn't however undermine its strength because as Ruddin (2006, p.800) asserts, that 'we do not infer things "from" a case study; we impose a construction, a pattern on meaning, "onto" the case'.

While some scholars label generalisability as a positivist concern, some others (Cronbach, 1975; Campbell & Stanley, 1966) have argued against generalisation itself, unseating it as the main goal of a scientific study. Given the situational uniqueness, applying the findings of a case study to other cases has to accompany careful and extensive evaluation, which according to Wikfeldt (2016) defeats the purpose of generalisation itself. Since exhaustive descriptive detail is supplied in a case study, it becomes easier for someone who is contemplating transferring the findings onto another case (Lincoln & Guba, 1985). Ultimately applicability of a case study's findings will be decided by those who receive the information (Tripp, 1985). For example, in studying the case of urban Haldwani I had the findings of a previous case study (Narain & Singh, 2017a, 2019b; Singh & Narain, 2020) at my disposal. On a comparison of cases however I had to forgo most of

the conclusions of the previous case study because they could not explain the case of rurban Haldwani. Doing so, however, did not make the previous case study less valid or unscientific.

It follows that a case study is not an unalloyed inductive study. It deductively studies the site based on the two propositions that rurban is a space exhibiting strong rural-urban linkages, and that water is governed not just through state institutions but also everyday practices and norms. These propositions guide data collection, and from generated data the study induces a nuanced concept of rurban and of rurban water governance (Bryant & Charmaz, 2007; Baxter, 2010; Hardwick, 2016; Baxter & Jack, 2008). Two chief tenets of the concept of rurban were empirically induced. One, what is rurban today may or may not become urban tomorrow. Two, despite apparent rurban(ism) i.e., rurban way of life, a space cannot be said to be undergoing rural-urban fusion or rurban(isation) if structural socio-economic, demographic, and resource-use changes are not underway.

2.3. Defining the case

Methodologically and conceptually this section answers the oft overlooked question in rurban scholarship: 'What makes the research site 'rurban' and 'how''? Bartels et al. (2020, p. 1241) stress the need 'to describe and qualify the peri-urban case under study, and in this way differentiate between related but...different concepts and notions'. Hyett et al. (2014) also emphasise on descriptions of the context for a holistic understanding of the case. They (ibid) also argue in favour of vignettes for supporting the description of one's context.

While some scholars (Stake, 1995; Smith, 1978) are of the view that one's case should be a well-defined and bounded, Yin (2014) maintains that it is not always possible to bound one's case, especially when neither the phenomenon under study nor the context are under the researcher's control. It is accepted that a case may be bound when

studying people and programs, but not when studying processes (Yazan, 2015). This thesis studies the process of rural water governance. In the sense of place, the limits of the case are set by the research site. Since the 'research site has tremendous bearing on what one finds and the recommendations one draws out' (C. Singh, 2022, p.149), identifying the rural site was as much a methodological procedure as a conceptual exercise.

Case study design admits of theoretical propositions about the case that guide construction of research question as well as collection and analysis of data (Yin, 2014). A preunderstanding of what is rural gleaned from literature review served as a starting point. Second, boundary of this case is a presence of interdependence (flows of goods, services, and resources) between the rural and the urban centre (Haldwani). This means that any space that does not exhibit such 'interdependence' is not considered rural in this study. An awareness of linkages is emphasised to acknowledge that policy interventions in urban have consequences in rural. By the same token, activities in rural (often under rural administration) have consequences for the urban. Studying linkages may also bring to light that the problems manifesting in one arena often originate in the other.



Map 2: This 3D map shows the position of the four potential sites (in orange) relative to Haldwani. The white lines roughly trace the widening boundaries of Haldwani city. **Source:** adapted from Google Earth

In the exploratory round of this study four potential sites were measured against these criteria: villages on the eastern periphery of Haldwani city; villages on the western periphery of Haldwani; Singola village, and Sitapur village. Only the last site was pursued as the case. The villages on the immediate periphery of Haldwani do exhibit socio-economic linkages with it. Haldwani for instance provides services of education and health care, market for rural agricultural produce, employment to many in its growing workforce. In return it may be said that some of these villages provide Haldwani with land for many a banquet, schools, new government-office-buildings and the like. Yet the interdependence is not strong between these peripheral villages and Haldwani city for a host of reasons. For one, Haldwani is not the only proximal urban centre for these villages to meet their needs for goods, services, and employment. Since a rural location tends to maintain linkages with multiple urban areas around it (Berdegué & Soloaga, 2018), the villages on the periphery of Haldwani meet their needs also from the urban centres of Rudrapur, Sitarganj and Kichha. Secondly, no interdependence with regard to water is evinced between

the villages on the peripheries and the urban centre. The mutually independent resource governance of the peripheries and present day Haldwani city frustrates the established narrative of rural as dependent on the adjacent urban or behaving as a supply ground for an extractive urban.

Another setting, village Singola, that has a resource link with Haldwani city through Gaula river is explored as a potential rural site. It is situated a 40km uphill drive away from Haldwani towards northeast, reachable by a narrow single-lane road. Singola, which is foreseeably going to get implicated (submerged in Bhimrani dam) in supplying Haldwani's water needs, exhibits the expected dependencies of rural on urban. Haldwani serves as both supplier of goods and services. For Singola's people, even the nearest bank ATM and fuel station are in Haldwani. However, there are no distinct flows of material and energy, or any social dynamism that might merit categorising Singola as rural. While its people depend on Haldwani for goods and services, Singola doesn't drive the growth of Haldwani.

This study therefore identifies Sitapur village as the rural of Haldwani because of strong linkages (flows of goods, services and resources) and inter-dependencies with Haldwani city. As a comparison, while the lakes of Sitapur village are a crucial source of the forest river, Gaula, that is the backbone of Haldwani's water supply, the villages on immediate peripheries of Haldwani neither contribute to nor depend on Haldwani in terms of water. These villages or Singola also do not exhibit any mixed water-use. To elaborate, no influence of the urban is modifying the practices around water use, access, and appropriation in these villages; water is by and large being used in the same activities it was centuries ago i.e., drinking, household, and irrigation. In Sitapur village however there is mixed water-use. Water is increasingly being used for commercial purposes such as providing for resorts, hotels, and cafes. Water is also needed in the lakes to ensure tourist inflow. Co-existence of diverse interests has created a pluriform water governance

where traditional, customary, statutory, and non-statutory practices overlap.

An important factor in Sitapur's case is its emergence as a residential tourism destination which has spurred a mushrooming of urban features. The in-migrants come from bigger cities and larger disposable incomes. It may then be argued that the intensification of the urban aspect, the multitudinous cafes, super-market style stores, the ever-increasing resorts and homestays and the untold European-style second homes seen in Sitapur, is a development quite independent of Haldwani. Such an argument however overlooks the historical role of Haldwani as a gateway city to the Kumaon or as a servicing centre for the region. Proximity to Haldwani is the pivotal condition that makes possible the scale of growth in Sitapur. It's also acknowledged by the in-migrants as the 'convenience' factor which makes Sitapur more appealing as a summer-home destination than places further up in the mountains with less 'convenience'. Haldwani is critical for meeting the supply of everything from construction material to professional expertise to medical health needs.

With deepening information and economic linkages, the growth in Sitapur is in turn fuelling the growth in Haldwani which is expanding as an omnibus market. The rural-urban linkages thus emerge as playing an essential role in urban development, confuting their common perception as something only of importance for the development of the rural (Gebre & Gebremedhin, 2019). Already a centre for sand and stone mining from Gaula, Haldwani now also features shops selling manufactured building materials and home furnishing and all ancillary products such as electronics, and high-end confections, leading to a growth of retailers, wholesalers, transporters and distributors. *Au contraire*, the eastern and western peripheries of Haldwani, and Singola village are not fuelling the growth of Haldwani to such a degree.

Finally, the transportation links, both public and private, are stronger between Sitapur and Haldwani. There is intense rural-urban mobility for tourism, business, and work-commutes. To compare, no government transport plies between Haldwani and its eastern and western peripheries; locals use private two-wheelers and cars. Between Haldwani and Singola transport connectivity is limited to a maximum of two private jeeps plying to and fro, once or twice a day. All the four sites can be said to be rurban in one way or the other, however the intensity of interdependence between Sitapur and Haldwani set it apart as the rurban best suited for furthering the theoretical aims of this study.

Another aspect of theoretical relevance which guided site selection was its being a small city. While rurban scholarship abounds in studies about rurban of metropolitan cities, rurban spaces around Indian small cities remain understudied (C. Singh, 2022; Rumbach & Follingstad, 2019). To address this underrepresentation, I wanted to explore the rurban in context of the small city of Haldwani.

Pragmatism guided the selection of the research site (Stake, 1995) just as much its theoretical relevance. Availability of funds was a major consideration. Supporting fieldwork through my stipend, I chose a site close to my family home. That said, parting with Gurugram, my research site for the last three years, meant parting with the well-built rapport and trust which is crucial for in-depth exploration. At the new site (Haldwani city) near my natal village, I could leverage some degree of pre-existing trust and rapport on the grounds of being a local (Yakushko et al., 2011; Oriola & Haggerty, 2012; Mandiyanike, 2009), besides experiencing connectedness. During the exploratory round and at places with restricted access, the networks of my family and friends proved to be door-openers.

This present study required an in-depth exploration and a fieldwork spanning ten months to cover different cropping seasons and the

associated water use and access practices. The new site was easy on the pocket given the relatively modest cost of living in Haldwani. Also, I could use home as a base camp, to replenish supplies and more importantly to reorder my thoughts before returning to the field for further exploration. Research sites that offer convenience, in most cases end up being over-researched, such as a site near a university campus (Angrosino, 2007). Fortunately, in my case Haldwani posed no such problem.

2.4. Researcher-case interactions

This section gives the 'details of the researcher's relationship with the case' to 'provoke vicarious experience and a sense of being there' in the reader (Hyett et al., 2014, p.7). Stake (2005) recognises experiential knowledge of one's case is a key requirement of a case study. An examination of the position and role of the researcher is also undertaken to help understand the researcher-case interactions, as well as to give insights into methodological choices for data collection and analysis.

2.4.1. Positionality

This section is an exercise in reflexivity which I understand as

turning of the researcher lens back onto oneself to recognise and take responsibility for one's own situatedness within the research and the effect that it may have on the setting and people being studied, questions being asked, data being collected and its interpretation (Berger, 2015, p.220).

This self-critical thinking is acknowledged by several geographers as an important process that helps negotiate positionalities and intersecting identities on the field (Chacko, 2004; Gregson & Rose, 2000; Pratt, 2000; Rose, 1997; Valentine, 2002; Gemignani, 2011). Scholars in the western academy conducting qualitative research 'back home' in the developing south also talk about the performative nature

of the shifting positionalities, such that the researcher may slip between them, playing up some identities while downplaying others (Mwangi, 2019; Siwale, 2015; Adu-Ampong & Adams, 2019).

Field is not a place where one goes to collect data but is home to communities and has its own embedded power relations that demand of one, thoughtfulness and sensitivity (Harris, 2021). A fieldworker must acknowledge the knowledge system of those on the field (Monzó, 2014). Even as a southern researcher conducting field work back, I was yet in a privileged position, that of scholarship (Giwa, 2015). I also grappled with the shifting positionality as an insider, an outsider, and an in-betweener based on the similarities I shared with those on the field that sometimes aided and sometimes hindered the research process, inducing a performance of positionalities for the purposes of access, rapport building, and collaboration (Zhao, 2017; McFarlane-Morris, 2020; Grahame & Grahame, 2009; Mwangi, 2019). While my localness helped in many ways, it was a constraint in other ways. Trying to keep aside my biases sometimes led me to ask seemingly obvious questions. I asked them anyway, often inducing a mild disbelief, and sometimes suspicion in the hearer because they'd expect me to know the answer by virtue of being an insider.

In Sitapur and Singola, my positionality aided my acceptance. It was often reaffirmed, whenever I was asked about home. When I would share the name of the closest town near my village, most responded with, 'oh, you are a local'. This was a good sign. I was not labelled as an 'outsider', but gradually learnt that even if I spent a lifetime on this field, I would still not share common ground with the participants. Locals relate to one another in terms of a common language, dialect, tone, culture, caste, socio-economic status, education, skin colour, occupation, and other nuanced social categories. Quality and credibility of the data I gathered was due to similarities with my respondents on many of the above aspects.

In any given moment, what a researcher perceives of the world is dictated by her positionality which includes besides biases, blind spots, interests, as well as constraints inherent in human perception and cognition (Pronin et al., 2004; Reed, 2016). All knowledge claims are necessarily situated and incomplete because not only does a researcher only absorb a portion of the total information about a situation (Simandan, 2019), whether or not she gets to witness situation at all depends on her position in the matrix of social and power relations on the field (Hopkins, 2019). From my position, access and relational aspects were less of a hindrance as I was from the global south. However, gender, class and educational differences (i.e., material, social, political power difference) still informed the research process (Sultana, 2007), as detailed in the following sub-sections.

2.4.2. Entering the field

Here I differentiate between gaining access to and entering the field, though the latter is rarely acknowledged as being a 'critical moment' (Turner, 1997) in the field, an exercise in sense - and meaning-making, a rite of passage of sorts that orients the researcher to the field (Chughtai & Myers, 2017). Entering the research site as an independent researcher can be daunting. On the very first day I had the acute realisation that I was the primary equipment for data collection (Angrosino, 2007; Reinharz, 1997; Creswell, 2003).

While no bureaucratic clearances were needed to take a stroll in Haldwani, I did fear an aimless exploration, and was grappling with a feeling of being lost. It is only expected in an exploratory round that is aimed at developing an initial understanding of the site and of the phenomenon which has not been previously studied in a substantive manner, and at how best to pose one's problem (Ahmed & Haag, 2016; Blumer, 1969; Blaikie, 2009). I fell back on my network on social media and ran a search by location. Chancing upon a school⁷ senior in the

⁷ Referring to Senior Secondary College in India.

vicinity was a wonderful stroke of luck. A meeting soon followed, in which, before the exhaustive interview, I had requested a tour of the area so I could roughly mind map it.

I followed up with him on two more occasions, learning about the socio-cultural composition of the local population based on religion, occupation, and regional affiliation. The last category begat a slew of questions about the *paharis* (the local term for the hill - people) in Haldwani. I also asked preliminary questions about trade and commerce of the city, land-use change, irrigation practices, and household water supply. During my second visit, it was through his social networks that I could speak to the operator at the water pump house that supplied irrigation water to two villages in Haldwani's eastern periphery. In water literature, gated or water distributing structures are pivot points of conflicts, where contesting and competing interest surface (Narain & Singh, 2017b; Mollinga & Bolding, 1996). Water operators, as street-level-bureaucrats (Lipsky, 1980) play an important role in providing services as they conduct the everyday water governance. This interview was therefore a key moment, that furthered my understanding of the local water situation, as well as the role of the operator.

The school senior also helped me gain access in the Western Periphery of Haldwani, by referring me to a felicitous informant, a far off relative of his, the son of *Sarpanch* (head of village council) of one of the villages – Sonu. Sonu gave me an hour-long walking tour and interview sharing details about his village. He shared information from his memory, culling kings and kinsmen from the centuries past. He graciously drove me around the neighbouring villages, on the way explaining how forest timber is extra legally acquired and animals hunted in the protected area. Sonu later invited me to his house in the coming week to meet his father, who according to him, knew it all.

After the first month, I met local academics. I also had many informal (non-interview) interactions with other locals in Haldwani and the vicinity. My research questions were being refined, and data triangulated as I referred to local literature, some well-known non-professional local historiographies, and scientific literature on the area (some of it in Hindi). By the end of the month, though exhausted with the overflow of information and data I had gathered, I could see my apprehensions fading.

My strategy at Singola village, that was far from Haldwani's city boundaries, had to be different, for there I had no entry point in shape of an acquaintance. Relying on my own resources then, in Singola village I began by sitting for a few hours a day at one of the (only) two small teashops that face each other. It was a dynamic space. By merely sitting, sipping, and overhearing, one could learn about the current debates in village politics, who came from where and for what, who did what to whom in the village and so on and so forth. The teashop had customers at all daylight hours. In the beginning, I usually made general queries, to know the what and the where of the setting. The locals, in return, enquired about my presence. I did this for two reasons, to break the ice and to dive deeper into the context. It was the process of dulling the edges of the oddity that was my presence, eroding apprehensions, breaking ice through casual conversation that was initiated sometimes by a village resident and other times by myself.

Within a few days, the tea shop customers were getting habituated to my presence. I became acquainted with the lynchpins of the village, its gatekeepers (individuals and local institutions) so that I may share about the purpose of my study and seek help in finding accommodation in the village. Where it took meeting the *Sarpanch* (head of the village council) to settle down in Singola, in Sitapur I achieved settling down because a key respondent in Singola had referred me a good friend of his in Sitapur. I had known, from older experiences, that the *Sarpanch*

is not merely a titular authority in the village. Being referred by them facilitates one's movement in the village and meetings with village residents. However, this approach may not always work. *Sarpanch* may behave as gatekeeper. For instance, in my previous research in rural Gurugram, a *Sarpanch* did not approve of my working in the village because he feared that the village secrets would be leaked.

The entry phase is tedious and frustrating and may stretch till the researcher becomes a familiar presence in the setting and gets well acquainted with the field. In both the settings, I had to introduce myself to every person I met or sought help from for directions in the village. The questions began – So who are you? Whom are you here to meet? Why? At first, I found it disconcerting but soon understood that it was standard for any strange face in the village. I would often be asked about my day's schedule - where I was going, and who all would I meet. Participant observation commands that a researcher keeps the respondents under observation. The irony was that they were the participants, but I was under observation. My presence in the villages was watched for several days.

2.4.3. Aligning with the field

Planning a research schedule in the university office is a one-sided affair. I learnt I was a servant to situations on the field and not the master. At Singola I stayed in the *ashram*⁸ managed by the villagers. My room had three cots, a fan and one tiny yellow bulb and no heating equipment. The toilets were common, to be shared and cleaned by everyone residing in the building. Cold December evenings were made colder by the river flowing below the unsealed window. Besides harsh physical conditions, there was the lag in making detailed field notes and preparing for the next day. Light was too dim and hands too frozen to work in the evenings. From the third day I began using an hour post lunchtime to sit in sun and detail my field notes.

⁸ A monastery that may be devoted to a religion, or to a spiritual leader.

I also aligned with the timetable of the ashram where all activities ceased after 6 pm. Food was served twice a day, at 11:30 am 6:30 pm. If one missed it, there was no alternative. The entry to the kitchen was restricted. This seriously changed my priority. Exploration and data collection were calibrated to meal timings. The dining area was in traditional Indian format, where we sat on the floor, cross-legged, in neat rows and were served food by the assistant-to-cook. I often received lessons on the code of conduct, who would bathe first and how to perform certain daily chores. A resident helper in the ashram told me that I should not bathe before the high priest, 'geyser water is first for him'. On another occasion, I was trimming my beard after having bathed, a sequence that irked the priest who passed by. He insisted that I bathe again to regain my purity. So, I did.

The daily exploration was divided between two slots – morning 8am to 11:00 am and afternoon 1:00 pm to 5pm; not scheduled as per my convenience but well aligned with the ashram calendar and daylight availability. Sleeping by 8 pm and waking up slightly before 4 am, my life was soon in tune with theirs; research and researcher continually shaped one another (Attia & Edge, 2017).

Another example of how field may upend plans is amply proved by the case of the three young men who accompanied me everywhere in Singola. Raju (18), Suresh (22) and Jagdish (19) spontaneously formed my entourage, from my third day in the field. I had hoped their fascination with my connection to England would wane soon, but the day never arrived. They had started confiding in me as a friend. It is important to mention that I had no difficulty processing such all at once kind of camaraderie. My home is in a village and over the decades it has been my observation that in rural and rurban settings trust tends to develop more spontaneously and with much less scepticism. Commonalities, of gender, generation, and culture further allowed solidarity among us (Dwyer & Buckle, 2009). I mention some of the

questions posed by them that exemplify the lack of inhibition - How do white people think of us (Indians)? Is the landscape in the foreign country actually so beautiful as it appears on Suresh's mobile wallpaper? Are white people rich? Could we get a job abroad? Do you have a white girlfriend? Do you have a bike or a car? Also, can you freely drink liquor in England? Have you ever visited a shopping mall?

The aspiration for an urban life among company was telling, and it fed into my understanding and eventually conceptualisation of rurban, e.g., rurban residents are active agents in bringing about a modified livelihood portfolio furthering the third process of rurbanisation - changing occupational pattern. Several mountain villages in Uttarakhand lie deserted, and the state has multiple programmes and schemes to incentivise people to not migrate to the plains. The majority of these out-migrants constitute young men, aged 17- 28 (Awasthi, 2010; Yadav et al., 2018; Hoffmann et al., 2019; Mamgain & Reddy, 2017; Yadav & Sharma, 2016; Tumbe, 2012). Raju often shared stories of other village youngsters who had gone to Delhi and Chandigarh⁹ and how they maintained a better life than most in the village. For proof he would produce WhatsApp and Facebook images and stories.

Interestingly, the company (Raju, Suresh, and Jagdish henceforth collectively referred to as 'company') worked as an entry permit in most households. Hollering a namaste *chachi*(aunt) or a namaste *daadi*(grandma), they would barge in well-nigh any household. Hailing from a village myself I am well aware of fictive kinship i.e., how people of the same village address one another using kinship terminology. For example, an old lady would be addressed as *daadi* (paternal grandma), a man younger than one's father as *chacha ji* (paternal uncle younger

⁹ Joint capital of the north-Indian States of Haryana and Punjab, the city Chandigarh is a major attraction for youth of surrounding rural and rurban areas for both employment and education opportunities. New Delhi, Delhi in common parlance, has come to stand for the whole host of towns and cities in the National Capital Region of India, that conjure up images of tall buildings, swanky malls, sprightly social life, and career growth. 500 km and 300 km away from Singola respectively, these cities hold sway in the society as a place where one may live the 'good life'. They're also imagined in regional popular music as 'happening' places.

than one's father) and older one as *tau ji* (paternal uncle older than one's father). When with company, therefore, I rarely introduced myself, I was heralded; they made my introduction on my behalf and then ceded the stage for me to speak.

On the flipside though, company couldn't help but interrupt every once in a while. Part of the same community, the three of them had many an answer to the questions I posed to other interviewees. On such occasions, I had to facetiously steer the conversation back towards the interviewee. Association with company sometimes limited me to general information. For example, once while interviewing a participant, as company walked in, I observed a sudden change in the participant's behaviour. In their absence, he spoke more freely and candidly, upon their entry he thought his responses through, conforming mostly to the local norms and codes of conduct. Company, in another instance, also imperilled the scope of my study. When I expressed my interest in visiting a few remote huts along the gorge and the river. Company promptly dismissed my proposal, saying 'those huts yonder belonged to the low-caste', and that my going there would be an act of defilement. As a consolation they added 'there was nothing extra' that I would get from those households.

The *harijan* (low-caste) neighbourhood often fell on my way as I bimbled through the village. Passing by that route allowed me to exchange a few casual hellos with the residents. With time, one of the members in the *harijan* neighbourhood became comfortable with my presence and initiated conversation. I introduced myself and obtained verbal consent before continuing. We spoke at length which allowed me to garner information so far lacking in other interviews. For instance, I learnt that none of the low caste people had their own land. They primarily depended upon cattle. Hari had one cow and three buffaloes. He enjoyed rights to a small tract of land which, although

belonged to the '*Van panchayat*¹⁰ land' (village forest council), had been passed down to him by his father. I also learnt that members of the low caste were always last in line to irrigate their fields and had no say in any significant decisions of the village. These data helped me understand the workings of power behind the water rights discourse in Singola village, raising distributional questions about the land and water resources.

During our conversation, when I requested Hari to refill my water bottle, he hesitated and suggested I do it from the other house close by. I was face to face with embodied social norms; Hari dithered because higher and lower castes do not mix socially and accepting food at the hands of a low-caste is avoided at all costs. In resisting this caste convention 'I had an opportunity to demonstrate my dislike towards the caste hierarchy' (Godbole, 2014, p.87). Upon my insistence¹¹ he refilled my bottle and our conversation continued. I got back to the room, detailed my notes and without much thought, went to sleep.

Next morning when I went to the tea shop. Company were the first to reproach, 'you should not have done what you did'. Before I could gather my bearings, Suresh began 'I saw you yesterday, in Hari's veranda, taking a water bottle from him'. Most in the village had learnt of this trespass. I could suddenly connect the dots, grasping only then why, that morning, the ashram priest had asked me to use a different bathroom. An ashram helper had also related to me the rumours about barring my entry in the dining area. I was polluted. I wondered what would restore my purity. For once I even feared that it was the end of

¹⁰ The autonomous local bodies that control the forests legally demarcated as village land. Social relationships eventuate use of Van Panchayat land by the economically disadvantaged to grow a few crops here and there. *Khil* cultivation is done in small patches at the forest edges; Van Panchayat members and the villagers alike, agree that the landless should be able to derive sustenance in this way.

¹¹ In India, insistence is a veritable part of politeness and paying respect during social interactions. In insisting on performing a sweet gesture for another despite their display of hesitance, makes one more amiable, even endearing one to them. In my interaction with Hari, my insisting on drinking water from his homestead was a sign of respect, a gesture that proved my bona fide intentions and more importantly that conveyed to him that I do not support a clearly unjust discriminatory practice. Insistence is virtue while hosting guests, for example. It's considered sign of good upbringing that one continually insists the guests help themselves to another serving. Absence of such insistence and overt hospitality from the host can make the whole experience unwelcoming for the guest. Children are taught from a very young age that when visiting someone's house they must refuse confections when offered the first time, lest they are considered desperate or ill-mannered.

my fieldwork at Singola. My stars were aligned I suppose, because Chand Singh intervened. A village elderly, Chand Singh had grown fond of me. He told people that I had been living in the city and abroad, that was out of touch with my traditions and the codes of caste morality, and that they mustn't judge me so harshly. He also told me that I can't expect people to understand my liberal approach. I took the next day off and spent it by the river, observing activities at the banks of Gaula and reflecting on the whole episode. In rest of my time in the village I had to contend with the limitations my positionality imposed on data collection.

2.4.4. A matter of Trust and Rapport

As trust and rapport are by their nature incremental and progressive, they cannot be said to have occurred in specific moments in time, accruing instead throughout the research period. Correspondingly, matters of trust and rapport are spread throughout the chapter. Here, I briefly share accounts of the social interrogation that I experienced in the process of gaining the community's confidence.

In my early days, I would get false, erroneous answers, or vague generalities. For example, once while enquiring how equitable was the water distribution during the summers in Singola village, the first time around I was told that everyone gets an equal amount of water. A few weeks later, I learnt that it was in fact a site of conflict, as the water operator in charge of distributing was blamed for favouritism. To resolve the issue, the villagers had even reversed the turns of recipients, but the problem persisted. Similarly, in the beginning I was never informed by any villager about a scheduled activity in the village. In the time I would conduct interviews at one end of the village, something significant would transpire at the other. I began to feel part of the field only after extended stays and the painstaking process of trust-building (Hyndman, 2001).

Slowly I began receiving invitations by many villagers for a chat or a meeting. Despite the general fondness I enjoyed amongst the village elderly and the *Sarpanch*, many others interrogated me whenever they had the chance. For instance, a handful few who could read some English often attempted to read the research questions page and say, 'I also know English', as if to say that no paper-carrying outsider is to try and take them for a ride. Some others even asked me to translate the research questions or field notes. Interpersonal dynamics is delicate and must be attended to with patience if effective interaction is to be achieved. Phatic communication thus led to interaction from a stage of non-interaction. As rapport-building progressed, interactional activities changed from interrogation to greetings and short exchanges about health and wellbeing (see also, Laver, 1975).

Once the curiosity about my work was satiated, I was asked all sorts of personal questions: which caste did I belong to; whether I had siblings, how old were they, their marital status; what my parents' occupations were; how much land I possessed; how much did I earn; and where had I attended school. Most also showed exasperation about why I would choose to work in a remote village like theirs when I could comfortably live abroad. To gain confidence, my respondents placed and tested me in categories they were familiar with (Laurier, 2010; 2003), and often in a confrontational tone.

2.5. Data Collection and Analysis

Data collection and analysis occur simultaneously in a qualitative study where every successive stage of data collection brings more clarity to the problem areas (Stake, 1995; Zucker, 2016). Merriam (1998) emphasises rigour in these methods, insisting that observations be *careful*, interviews *effective*, and data be *mined* from the documents.

Other than the general analytic strategy of 'relying on theoretical propositions' this case study uses the analytical techniques of

explanation building, and chronology as laid down by Yin (2014). Explaining a phenomenon by stipulating “why” and “how” something happened, is usually done through a narrative. To prevent the narrative from being imprecise or digressive it is closely knit with theoretical propositions. In the analytic technique of chronology similarly, causal propositions are stressed in order to prevent mere description. Specific indicators of rural-urban change, such as resource use, flow of services, and changes in built environment among others, are traced over time. For relevant data to be collected such specifications had to be decided *a priori*.

Data collection tools are discussed below.

2.5.1. Sampling Techniques

From her fieldwork in Bangladesh, Sultana (2007, p. 380) points to the ‘similarities and differences that emerge through the relations that are involved in the research process demonstrated the ways that alliances and collaborations can be forged, rather than a priori agenda before the research was undertaken’. In the same vein, Marshall (1996) had suggested that the sampling for the data should be flexible and pragmatically approached. Considering this, I chose the respondents on the principle of methodological pragmatism (Johnson & Onwuegbuzie, 2004), that encourages spontaneity rather than maintaining rigid rules or guidelines for data collection, i.e., assessing the field realities and then exploring ways to enquire.

Given the limited availability of time and an urge to conduct in-depth exploration, I chose to employ snowball, theoretical, convenience and purposive sampling. I used a blend of these sampling techniques to embrace different settings and engage with informants in a short frame of time (exploratory phase that lasted a month). Because I was stepping in a new research area (Haldwani), I started with the people I knew who lived in Haldwani and requested interviews (purposive sampling). For purposive sampling an underlying theory is not a

requisite, it is the researcher who decides what she needs to know and accordingly sets out to find participants who are willing to provide information based on their experience and knowledge. Among my participants were a banker, a high school owner, a farmer, a café owner, a businessman and an employee of a private enterprise. Most of them gladly referred me to other respondents in their network (snowball or chain sampling).

Respondents' referral signifies two things, first, their wilful participation in the study and second establishment of a certain level of trust and rapport with the researcher. In snowball or chain sampling, there is a theoretically relevant link established between the referee and referred informants. It helped me uncover information that is layered, i.e., how and when Haldwani emerged as a city, how was water accessed then and what practices have emerged ever since, how is the water demand met currently, what is the source of Gaula river, and what plans does the state have concerning water provisioning. These leads, combined with theoretical sampling, helped me map my research site. To strengthen the rigour of the study, I sampled events, occasions, people, and locations based on their relevance to the theorisation of the context (rurbanisation).

I also included convenience sampling to reckon with the availability of respondents at a given time, their willingness to participate, and the geographical proximity and ease of accessibility (Etikan et al., 2016). It is difficult to schedule meetings with informants in a rurban setting where the day-to-day activities require locals to always be on the move. Convenience sampling proved to be an efficient and effective sampling technique in such settings where time was of the respondents' choosing not mine. Perhaps the convenience in convenience sampling alludes to participants and not to the researcher.

2.5.2. Participatory Rural Appraisal (PRA)

To learn of the perceptions that the residents held about the ecological changes and to gather information from them about their day-to-day (Halder et al., 2012; Chambers, 1994), I used two tools of PRA, namely Resource Mapping and Daily Activity Clock. The first allowed identification of springs, lakes, streams, and other water sources as well as determination of the geographic, infrastructural, and socio-economic conditions of the community (Song et al., 2006). Beside serving as an icebreaker, resource mapping exercise facilitates investigation of people's knowledge of the spatial distribution of their resources (Gadre et al., 2011). PRA is powerful for obtaining in-depth data on gendered practices (De Zeeuw & Wilbers, 2004), and proved as such for me as I conducted the activity calendar with a group of women in Sitapur village. Rare as it was the opportunity to speak with a group of women unsupervised by the males in the household, as is common, had to be optimised for data collection in a brief time and while ensuring that the respondents were comfortable in participating. In the making of a daily activity clock simultaneous discussions commenced on how labour was divided between men and women, between older and younger women, peak workload hours, and daily challenges in different activities.

2.5.3. Participant observation

Participant observation is observation made in capacity of a participant, not merely an outsider who is separated from that/those being observed. Laurier (2010) lucidly describes it as a method that comes naturally to us all, because as children we have all spent a lot of our time learning to participate in the world around us by observation and approximating what we observed in our own behaviour. He emphasises on participation rather than being complacent with attentive, objective observation. Perreault (2008) proposes, aspects of socio-natural relations cannot be comprehended from a distance, their dynamics are to be centred on methods like participant observation and semi-structured interviews. To gain an understanding of the motivations and

other aspects of their behaviour regarding water access, use, and appropriation, this method proved most suited. It also allowed me to study and process, resource use practices and continuities therein, and the relationships that people had among themselves and with water. The quality of data collection improves by participant observation (Dewalt et al., 1998) as it facilitates direct immersion into the research context.

The villages were vibrant settings, where so many events happened at the same time. I would wake up some mornings to find out that something important had occurred. For example, during my stay, the village of Singola, was a hotbed of rumours about resettlement and displacement plans in connection with the upcoming dam. Visits by officials surveying the Bhimrani dam were common. News of their approach would reach me through the grapevine as I was busy observing and interviewing farmers irrigating their wheat fields. However, a researcher can't be at different places at the same time. Some events that were missed had to be comprehended through the bits and pieces received on asking around and through visits to the site for any evidence or indication of the event having occurred.

'Participant observation is not an observation without field notes' (Curdt-Christiansen, 2019, p.343). Physical setting, actors, activities, events, as well as feelings of people had to be jotted down. Reflection on the field notes was a big part of field work. I had to regularly fair my field notes in the evenings to better situate myself for an in-depth enquiry. Phillippi and Lauderdale (2018, p.383) concur: '...contextualisation of the study may be a recursive process throughout the study, with relevant information added based on participant comments.'

2.5.4. Semi-structured interviews, Focus group discussion (FGD) and Key informant (KI) Interviews

Contingent realities of the rural space, the ordinary and everyday lived experiences of its residents were recognised as critical to knowledge production (Buckley & Strauss, 2016; Millington, 2016; Robinson & Roy, 2015; Derickson, 2015). Qualitative interviewing was undertaken with an object of uncovering how rural residents make meaning of water use and access, and of their changing experience. In this section I first discuss the similarities and the fine line separations among the three techniques. I further mention some lessons and issues I faced in wielding these tools during fieldwork.

Semi-structured interviews, focus group discussion (FGD), and key informant (KI) interviews unfold in a conversational style. The order of questions and even the number of questions vary from one interview to the next. The questions or topic of discussion are mostly tailored to a specific context or respondent(s). Questions usually evolve as the research process progresses, for example, several questions framed in the office became obsolete upon entering the field. Furthermore, these techniques are partially respondent led. A researcher allows the respondents to decide the flow of information to factor in various angles. The respondent doesn't just confirm or negate, say a 'yes' or 'no', but is at liberty to share what she feels is important about the topic.

FGD can be clearly differentiated from KI and semi-structured interviews based on the number of participants. Where an FGD would have between 6-12 participants, a semi-structured and a key-informant interview is a one-on-one interaction. I interviewed, for example, members of different social groups such as irrigators, village headmen, women who fetch water, and other rural residents, separately, in smaller focus groups to understand relations among them, and the roles that they perform in shaping water access. An FGD can be understood as lying between a meeting and a conversation, a

formally pre-arranged event but supple because participants spontaneously pick up from each other's ideas (Agar & MacDonald, 1995). A working definition can be gleaned from Stewart (2018, p. 687) who calls FGD, 'a type of group discussion about a topic under the guidance of a trained group moderator.' However, the differentiation between KI and semi-structured interview is minute but very significant. All KI would be semi-structured, but not all semi-structured interviews are key-informant interviews. The key informant technique involves talking to selected participants (one at a time) who are integral members of a community or a process and are willing to participate and share insider knowledge. Therefore, it is only possible after a certain level of trust and rapport has been established between the informant and the researcher.

Furthermore, in the context of settings where a community is tightly knit, a researcher must be cautious while conducting semi-structured interviews. For example, in Indian villages, notions of privacy are different. People of a community call on each other in their homes without the formality of informing beforehand. As a corollary then it is common for people to drift into a conversation uninvited. Several times during my interview with a participant, people (or a single person) would either come and sit beside us or join the conversation. In such instances, the essence of a semi-structured interview was lost because the respondent would speak as per the norms of the community. It became a collective voice, rather than an individual's. As a response, I had to quickly switch from an interviewer's role to that of a moderator, turning into a focus group discussion that what began as a semi-structured interview.

I'll detail a few lessons I learnt while conducting semi-structured and key informant interviews. During my fieldwork, I met a resort owner. To understand the rural-urban flows, I asked what motivated her (in-migrant) to settle there, and followed with questions about the source of goods, services and resources for sustaining the resort. She

answered all the questions but without sharing any relevant information. It was the shortest and most brief interview of my fieldwork. I was particularly curious to know about the source of the resort's water supply. The Sitapur *malla* village in which it was situated has pronounced water insecurity. When I brought up this fact however the respondent turned perceptibly defensive, even though I was extremely careful of not (not even obliquely) making any allegation or personal attack. Later, upon reflection, I realised that the questions I had posed were framed for a key-informant. Only a person with whom I had developed a mutual trust would have answered them. I realised also that so far I had been interviewing farmers, who did not see sharing about their various sources of water as disclosing sensitive information. The resort owner however had commercial uses of the water and wasn't comfortable revealing how it was sourced. Post this interview, I also learnt to focus more on 'small talk' (detailed in next section) or fillers, both before and during the interview, to allay apprehensions that are natural when speaking to strangers, especially strangers with a field notebook.

In the key-informant interviews, where I was welcomed by the respondent, their interest in participating shone through, and rich conversations were held over a tea or a long walk. I learnt that despite one imagining that one chooses the key informants, the inverse may be true. In this research, for example, the key informants chose me. I elaborate a case to substantiate my point. In Singola village, Chand Singh and I merely greeted and had phatic communication for many days. So, when one fine day he offered to show me around, I seized the opportunity. He led and steered the conversation, sharing about several people, their family history, village dynamics, the key decision makers of the village, water use and access practices, land rights among other things. I didn't interrupt. Transcribing a three-hour-long walking interview was painful but enriching. It is also important to acknowledge, that those who claim to hold knowledge about the water sources and of local water rights are themselves embedded in certain

structures of power. All knowledge carriers (users or engineering experts) hold implicit political, economic, and cultural biases (Roth et al., 2015). Despite the legitimacy of knowledge shared by a local user, the reliability and validity of such data has to be handled by triangulating data sources.

2.5.5. Small Talk

Semi-structured and key informant interviews usually last longer than structured interviews, as they are partly guided by the participant. Due to the liberal time limit, it is reasonable to experience intermittent periods of silence. To revive the flow of such pauses in conversation, small talk related to the topic acts as filler and prevents the rapport from deflating (Coupland, 2003). Likening of human communication to a machine, Scollon (1985), stresses on the reassurance of a 'humming' so no one feels as though the machine has broken down. All conversationalists intuit the timing and content of small talk. I usually began my interviews by asking about general topics, such as the history of the place, climate, their birthplace, children and occupation. However, these questions should be perceived by locals as general information. For instance, during my interviews in Haldwani, I chose a different set of general questions, where some of these would have been categorised as personal information, and one would have hesitated in sharing any information. Context is paramount in small talk or phatic communication; neither is the content universal nor do all cultures permit small talk equally (Senft, 2009). It is also important not to approach small talk as a formula, as for example between customers and servers. It should not be seen as a precursor merely to the real transactional talk, but as a way to establish and maintain interpersonal relationships.

Along with 'hanging around' which is central to fieldwork (Geertz, 1998), small talk is crucial in producing field notes, in triangulating data, and in sustaining good relations with respondents in the field. I learnt anew the importance of small talk in Singola village, more

precisely in the twin tea shops. The teashops, facing one another across a narrow lane, were a politically active site where consequential decisions were reached through many a meeting amongst villagers, and between village representatives and government officials. This part of the village was bustling throughout the day. Men young and old could be seen sipping tea and talking, some deliberating over bollywood gossip, others debating national politics. Women could be heard on the rooftops in the surrounding houses trying to dialogue with one another over the rising noise. Other women were seen crisscrossing the street on rounds of fetching water or fodder. Schoolchildren and animals could also be spotted at intervals. To go anywhere in the village, one had to cross this part, and most walking-by were often dragged into a chat. Of those, I was a regular victim. At first, I found it frustrating to have my already meagre time thus apprehended. Soon all the small talk made me realise that the place, a comfort zone for many in the village, could prove to be a propitious interview site, one where power imbalance between the researcher and the interviewee is minimised. The technique thus emerged from the field and added to the rigour of other tools. 'The underlying tensions, hierarchies, and past and present conflicts in the community or network under study may be hinted at in small talk, and this will help to sensitize the fieldworker's perceptivity' (Driessen & Jansen, 2013, p.253). Small talk not only paves the way for big talk, but it is also often indispensable to comprehend a socio-culturally rich setting.

Informal conversations with residents became part and parcel of life when I lived in Sitapur for a stretch of five months. These were not formalised interviews, yet they helped generate data. I have often thought of the ethical concerns of such communication. These conversations that took place nearly every day when I was residing in the field occurred outside of the 'formal fieldwork', even though I was alert to 'revelatory moments' (Fujii, 2015, pp. 525-527). When such 'incidental ethnographic encounters' (Pinsky, 2015, p.281) would occur I'd ask more specific questions if the flow of the conversation allowed

it. Though instinctive this further questioning was invariably an 'ethically important moment' (Trussell, 2010, p.380) because what was an innocent conversation so far was to turn into a data collection exercise. As discussed in Swain and Spire (2020) my respondents (one and all village residents at this point) knew that I was a researcher and knew in at least a rudimentary way what I was working on, thus everyday interaction with them does not place me in the wrong. Even though some of their conversations enriched the data, the degree of their participation places them on the on the 'peripheral' end of the participation spectrum, another end of which holds 'central' participants (Delamont & Atkinson, 2018). Only marginally involved, the many residents I had informal conversations with, were not involved in an active manner or directly in the study.

2.5.6. Walking Interviews

Go-along is a popular technique of walking methodology, in which the researcher asks questions while moving with interviewees in parts of their daily routine that are of interest for the research (Robinson & McClelland, 2020). For instance, I interviewed farmers while they were sowing, tilling, and irrigating, walked with herders and their cattle on their usual route, and walked with women while they ventured into the forest to fetch fodder and fuelwood. Respondents identify with space (Evans & Jones, 2011). It is not mere recognition and familiarity; the construction of self-inheres in the place. Places are a stimulus to and outcomes of lived experience. When the place for an interview or a group discussion is an office room or a designated spot, travel to the location establishes a layer of power structure between the researcher and the participants. The physical space of the interview significantly impacted the response of the interviewee (as seen before in the teashop interviews). Walking in the space that the informant habitually occupied gave a natural flow to the interview. The questions, rather than coming from my notes, were prompted by the space itself, from how the informants moved in it and used it, thus mitigating the power imbalance.

Walking may trigger memories of a social narrative. A farmer at Sitapur *malla* didn't merely agree that water bodies in the region were depleting, he added that when he was a child several more lakes had existed and pointing to a house, said, 'that right there is constructed on a dried lakebed'. He shared that he could never forget the spot because a fellow villager had drowned in the very lake a few decades ago. Many such memories may remain dormant in day-to-day life because of physical separation from the space. Instead of recollecting it in a space removed from where the event actually occurred, my informants responded from the feelings that arose from being in the space to which the memory was attached. The data generated through walking methodology tends to be richer as it assimilates people's real-time experience of being in the space being discussed. To an outsider, it may seem like aimless walking. As a villager once pointed, 'I see you wandering all around the village and chatting with people, when do you work?'

Aimless walking or 'bimble' is a veritable technique in walking methodology. I used it at each site, during the early phase, to uncover different meanings that space holds in the lives of the participants. This helped me mind-map the physical space, such that during an interview when a respondent mentioned 'Golu's watermill on the turn' or 'the spring under the *utees* tree (Nepalese Alder)', the referents were available to me for recall. Hickey et al. (2018) also emphasise on the liminal spaces that can be explored by walking, not only the in-between physical spaces that open up new inquiries, but also the metaphorical in-between that allows a deeper understanding of experience of self and experience of other.

Walking interviews last longer and provide deep insights. During the three hours long walking interview with Chand Singh when we reached

his field, he broke the bund in the *gul*¹² carrying water towards someone else's field and re-channelized it to his, murmuring abuses. On the contrary, when I had asked questions about conflicts surrounding water sharing and access at a location away from the field, every person had promptly denied any such thing. Talking while walking also allowed for a more collaborative generation of knowledge, unlike an interview that relies on structure and highlights power relations between the researcher and the respondent (Anderson, 2004). Moving together has the potential to veer away from the power structure.

As compared to sedentary interviews, walking interviews yield data that is multisensory. People spoke relatively more about the features of the place, the fields, crops, water flows, trails, alleyways, the colour, texture, size of the place and the roads. Stories narrated were about the place itself, whereas in the sedentary interviews the stories told are about people's personal history in that place. That said, it is important to question who will decide the route of the walk: if the researcher decides, the route though relevant to the research might take away the privilege of the participants to choose their own route.

In the five months when I lived in the field, I walked nearly every evening for about two hours. Walking every day and paying attention, proved distinct from intentionally employing walking methods for collecting qualitative data; the former was anticipatory and open to possibility while the later was to some degree predictive (Ingold, 2022). Not only did walking everyday provide me the opportunity to mobilise all my senses (Ingold, 2011), it enabled insertion into the field which wouldn't have been possible otherwise. Case study method acknowledges that a lot of data is gathered impressionistically (Stake, 1995). In my daily hike of about 9 km, I crossed three-four hamlets.

¹² A traditional Himalayan irrigation system where water is diverted from a rivulet, stream, or a river by damming the flows and then directing the water through smaller channels. The fields are at a lower elevation which allows the water to gravitationally flow to the fields. Mostly farmers take turns to irrigate, regulating the flows in the process. They system is steeped in intimate knowledge of the region, perfected over generations.

By the end of the second month, I was a familiar face, and more importantly an acceptable, even a welcome presence. A shared understanding of the space was made possible through the encounters on these walks.

2.6. Challenges

2.6.1. Access to state departments and officials

My research corresponded with the work of the following state departments: Haldwani-Kathgodam Municipal Corporation, Uttarakhand Irrigation Department, Uttarakhand Pey Jal Nigam (responsible for construction of water infrastructure), and Uttarakhand Jal Sansthan (responsible for city's water provisioning), all of which are large and intricate. It takes considerable time to locate a particular office or official. It is difficult to discern from the online directory which of the myriad administration posts would be able to provide the information sought. In every office therefore, I was helped by the inquisitive office peon, whom I'd had to explain my work to, so he could according to his understanding point me in the direction of the relevant authority. Once I located the official, I would be made to wait sometimes for hours and sometimes for the whole day. When the meeting did commence, it was underwhelming, bringing mostly general and limited information.

On one occasion, an officer in the Municipal Corporation instructed his clerk to share the information I had requested. After obtaining a perfunctory document that could have been sourced from any photocopier in the area, I invited the clerk to share tea with me at the kiosk outside the office. We spoke about general things, and then he suggested that I contact '*bada sahab*' (senior official) if I really wanted information. For there are, he said, at least three categories of information: one that is shared with journalist and researchers like me; one that is there on papers; and one that contains 'what actually happens'. To unlock these levels I would've had to mobilise some family

contacts to first locate a senior official and then facilitate my access either by obtaining a telephonic referral or a written letter of introduction that I could produce before the head of office in different departments. As junior officials are wary of inquiries and probes, a senior's phonecall referring me to them would have not improved the quality of information I was already getting. The written letter of introduction could have taken months to come through. My concern has also been echoed by several other geographers (Kerkvliet, 1997; Forbes, 1996; Soucy, 2000; Connell, 2006). I did recourse to the first option, and with successful ends.

2.6.2. Physical challenges

Besides having to locate and interview people working in the field, collecting fodder in the forest, resting under a tree, reposing in a tea shop, chatting at a corner shop, unwinding by the stream, or just hanging about in a temple compound, it is also strenuous to walk several miles every day on hilly terrain, and mostly in the sun. A large number of people, both in Singola and in Sitapur, started their day by 5 am, and most public places emptied out by 5:30 pm. Taking into account the regular chores and timing of the participants, my field timings there were 8:30am to 12 noon and 1pm to 4pm. The four hamlets of Singola were seated on different mountains, reaching two of which required crossing the Gaula river on foot. On the days I worked in these, I would cease while sun was still high, participants were still available, and there was no danger of missing the dinner at the ashram, because a patch of dense forest had to be crossed on the way back.

On average, an interview lasted forty to sixty minutes, and the switch from one participant to another meant an hour. After two interviews in a day, there wasn't much time left to make detailed field notes without sacrificing an adequate rest, which in turn jeopardised active data collection on the following day. Things got rough when I had to cross the Gaula river four times in a day, taking off shoes each time, rolling

up my pants and balancing on a pebbly riverbed in thigh high, freezing, mountain water. The setting initially inspirited me, and I overreached, trying to learn everything in a day, and soon enough fell ill. After the fever from oversteering waned, which took two days, I reconciled with the rhythm of the setting, no more trying to rush the affairs. In Sitapur, likewise, the forested distance between its three constituents had to be considered in deciding when to call it a day. At Sitapur my field timings were 8am to 11am and 1pm to 5pm. I could start early because breakfast was available earlier and could stay in the field longer because the hustle-bustle here stretched later into the evening as compared to Singola.

2.6.3. Exploring Gendered Practices

'Gender relations shape identities, norms, rules, and responsibilities for women and men, and access to, use, and management of water resources...' (Joshi et al., 2021, p.221). Due to the process of rurbanisation, fast transforming livelihoods, enhanced migration among and mobility of rurban residents, the gender roles around resource access and appropriation are evolving (Bhandari & Reddy, 2015; Kandari, 2013). To understand how the process has impacted this transformation, the socially constructed roles and responsibilities of men and women around resource collection had to be unpacked. I investigated these by asking the 'who' question i.e., who fetches water home and how (O'Reilly et al., 2009; Joshi, 2014) to unpack water-gender relations. Narain and Singh (2019) explain, in the context of Kumaon Himalaya, these relations remain masked because women are hesitant in openly talking about their contribution at home and on field. Interviews with men and women are observably different because of the inevitability of 'doing gender' i.e., how the interviewer and the interviewee mutually categorise each other's gender and how subsequently their behaviour is constructed based on that categorisation (Kosygina, 2005).

My positionality as an unmarried, heterosexual cis male researcher was a big hindrance in directly approaching women. They would often think out loud before me, and the reasoning went thus: if I was well educated, earned good money, and had a respectable job then why was I single. I was subjected to questions such as, 'You are quite old to be single, when do you plan to get married?' 'Do you have a white girlfriend?' 'Is your baldness a hurdle in marriage prospects?' 'Don't your parents ask you to get married?' In most villages where I worked, men younger than me had children of their own. All my ducks in a row and yet single, brought me in the circle of suspicion sometimes. Married men are accepted more quickly and have fewer barriers in talking to young girls or women of the village. Given the strict moral code of the setting, it is not uncommon for a single male to be misjudged if seen freely talking to a girl. The vigilance is stricter if one is not a resident of the village. In many north Indian villages, and for that matter in my native village, there is severe punishment for establishing any relationship between men and women beyond the kin group. All unmarried young men and women of a village are seen as fictive brothers and sisters. Fearing sanction, I addressed and referred to the young girls of the village as *behen* (sister).

I also feminised my responses in interviews to minimise the incongruity of gender (Broom et al., 2009), that included displaying sensitivity to their day-to-day, and tailoring phatic communication to enquire after the wellbeing of other family members since most women in the setting undertook care work for elders and children in their household (De Zeeuw & Wilbers, 2004). In Singola I interviewed women through company (Raju, Suresh, and Jagdish who had become pally with me) because the deep-rooted rapport they shared with potential interviewees transferred a credibility onto me. When not with company, I interviewed women through walking interviews, walking to the water points or to the forest where they went for collecting fodder and fuelwood. Walking interviews were most practical, they put women at ease by minimising the chances of inviting attention (and/or

sanction) for talking to a strange (outside of kin) male. Speaking with elderly women was fruitful not just for understanding gender-segregated aspects of domestic water use but also for insights into the intersectionality of gender relations. When I couldn't interview women due to all the limitations mentioned above, I relied on direct observation. At Sitapur, it was a common sight to spot men playing cards and smoking *beedi* (country smoke) but rarely did I see a woman sitting idle.

2.6.4. Covid-19 and mental health

I have battled the shared disillusionment and mental health crisis induced by the pandemic. It is, however, a solace to be completing my PhD in a world that is waking up to the depression and anxiety faced by graduate students (Evans et al., 2018), and how these challenges have been compounded by Covid-19 (Li et al., 2021; Wang et al., 2020; Y. Liu et al., 2022; Kee, 2021) especially for those in the social sciences (Chirikov et al., 2020).

When India entered the COVID-19 lockdown towards the end of March 2020, I was at a key stage in my fieldwork. As per my original research plan, data collection involved in-depth (long-term and consistent) fieldwork, extensive travel, and stay with the communities. I had built a foundational understanding for my research and was well placed to dive into an in-depth enquiry by April 2020. The two crop seasons *rabi* (November-April) and *kharif* (June to October) had to be analysed for a rounded view of rural water governance. I was set to cover this fieldwork in 2020. It could never be achieved in desired thoroughness.

In response to the unforeseen suspension of fieldwork, my supervisors and I drafted a series of possible scenarios to provide flexibility for completing my PhD program. I began with coding, analysing and writing my thesis with the data so far collected. Under the mounting pressure of time loss due to lockdowns, I redoubled my efforts in referring to secondary sources. This led me to reformulate key research

aims and objectives scoped through this work. The thesis now explores besides rural water governance, the multi-axial factors that led to the ruralisation of Haldwani and argues that rural drives its own change.

A whole year and few months passed before I could return to the field. After obtaining the first shot of vaccine I rented accommodation in Sitapur village, between August and December 2021, to be on the field while writing the thesis. PhD timeline no longer permitted a full-fledged fieldwork, yet it was invaluable to live in Sitapur for refreshing the understanding of the field and the processes of ruralisation. The fifteen new interviews and some follow up interviews that were conducted in this phase were invaluable.

2.7. Research Ethics

During this study, many people that I have interviewed have asked in one way or another “what’s in it for me?”. It has compelled me to think if after all research is an extractive process, or as Binns (2006, p.19) puts it, ‘parasitic’. Parasitic in that the researchers gain disproportionately more from the time, information, and hospitality of the researched community. Hammett and Sporton (2012) also pore over the double-edged ethical dilemma of compensating the research participants with cash or other gifts. On the one hand it may minimise the power and wealth imbalance between the researcher and the researched (McDowell, 2001) while on the other it may perpetuate expectations of payment from all future research teams. Another concern raised is about commodification of the participant’s narrative (Cook & Nunkoosing, 2008). While the power imbalance between the researcher and researched, the privileged position of the former I the latter, is a recurring concern in scientific literature on methodology, it is also acknowledged that qualitative traditions tend to minimise the separation between the two (Karnieli-Miller et al., 2009; Råheim et al.,

2016). Reflexivity in qualitative research can ensure to a great extent that the voice of the researched is not subdued (Kalu, 2019).

The other question that I have not been asked so often by the participants but myself have grappled with year after year, is 'How do we know you will tell our truth'? In academic-speak, how could they be sure that I would interpret their life (and logics) the way they saw it? As suggested by Josselson (2007), therefore, I want to explicitly own the 'interpretive authority' in the present research, i.e., how the data are represented is controlled by me and is guided by the research objective. Given the contextual nature of this research, representation of places and people is also guided by avoiding any possible harm that may accrue to the participants, which is why I pseudonymise not only the participants but also the locations. While the participants are pseudonymised they correspond to real people, and their words have been quoted as uttered or have been faithfully paraphrased in the larger interpretive scheme. This is done in service of the theoretical goals of this thesis that require cognitive rather than affective engagement from its academic audience.

That which I gleaned from the field had inevitably to be worded and phrased such that it may be legible to my department, and to Euro-American academy at large. Knowledge about these villages had to be compared against 'categories and understandings forged elsewhere and are not the place's own ... [as] one's own deeply embedded trainings and way of looking at things come in' (Narendra, 2020, p.2). My ethical concern with representation is shared by Knapp (2014, p.14) who remarks that 'experiential or 'outsider' knowledge seemed little valued or understood unless couched in academic language'.

Another requirement of academia that ironically creates ethical dilemma for the fieldworker is the ethical clearance. Prescriptive ethics cannot always envisage the immense complexity of the field and the myriad instances where a researcher has to negotiate social relations

(Kearns, 2001; 1998); instances that could not have been anticipated by the researcher either. The random social encounters, conversations while passing-by, casual meetings that were not interviews, and participant observation, all of which transpire on the field make it difficult to make a clear-cut separation of when research begins, and as such defy being defined by a particular moment in time, that of signing the consent form (Lederman, 2007; Wynn et al., 2014). I therefore second Zhang's (2017) argument against the 'objectivity' and 'universality' of ethical code drafted by the ethics committee. The notion of ethics can only be validated by its 'situatedness'. It should be based on the consequence of an action and not the action itself.

Though the roles of a researcher are unambiguously defined by the ethics committee, the community might perceive a researcher as student, a friend, and sometimes an idler. In Singola I was taken as a de-facto community member and held accountable and responsible for my social roles by those on the field. Chand Singh asked me to represent the village before the Dam authorities on their next visit. I was much humbled when he explained that my education and temperament befitted me to both understand and convey the interest of the community. I was also aware that the local administration was leaving no stone unturned to appease the representatives of the inter-governmental development bank that was funding the project. Since any involvement on my part would have sounded the death knell for my own project, I politely refused citing my lack of in-depth knowledge about the matter, adding that such a task was best carried out by the experienced. Representing the people could have entangled me into local politics, something I wasn't prepared for (Angrosino, 2007). The dilemma was compounded because I feared losing a key informant. While Chand Singh trusted me as an educated person who could better represent the interest of the community to the dam authorities, company (Raju, Suresh, and Jagdish) confided in me as a friend. I found it extremely challenging to understand and transform in ways that were expected of me.

There is no way a researcher can maintain a sanitary distance from the field and its residents. Even when I resisted, in the villages in which I worked, the respondents would make sure they drew me into their random affairs. I also participated through my various constructed identities. It is a feeling of grave responsibility to document fragments of people's personal lives, that they willingly and gladly entrusted to me in shape of their fears, sorrows, hopes, joys, and expectations. It immersed me in the realities of the field and set in motion meaningful exchanges with the participants, also forcing me to reimagine the issues of morality, ethics and responsibility.

Attaining the ideal of exiting the field 'leaving nothing behind' is rooted in the misplaced belief that a researcher controls the research. Just as it takes two to tango, the research too influences the researcher both during and after the fieldwork. Every so often I get a text message or a phone call from old key-respondents. These moments, increasing with increasing years in the field, constitute what I call the residual ethical dilemmas of research. There is a lingering guilt of not having brought any direct benefit to them and their communities in return for their time, hospitality, and knowledge. Not that these messages and calls ever hold me accountable for anything, they are mostly just for catching up.

I walk out of the field slightly discontent and much humbled by the awareness of how little I knew when I entered and how much more yet remains to be learnt. The field posed unforeseen difficulties, setbacks, and challenges each opening a new way of seeing, reasoning and feeling like the participants. The question is not whether or not to get involved, but how to exercise control on the degree of one's involvement. In this sense, perhaps, the field and the fieldworker are inseparable.

I wish to return one day, but by then Singola's hamlets would have given way to the Dam. Sitapur's slopes would be blanketed in summer homes and cafes. Raju, Suresh and Jagdish would have left for the city. Chand Singh would have become a proud owner of flatlands in the Tarai and the leopard cubs I encountered during fieldwork in Sitapur would have grown into majestic beasts.

Chapter 3 **Situating Haldwani**

3.1. Introduction

According to the United Nations (World Population Prospect, 2019) most urban residents in the world will live in settlements of less than 500,000 inhabitants. In such a world, a comprehensive understanding of the smallness of small cities is crucial since 'a large share of the global south's population is concentrated in towns and smaller urban centers' (Randolph & Deuskar, 2020, p.4). Based on the case of Haldwani this chapter makes the argument that small cities emerge from multiaxial logics. Rural-urban changes/ rurbanisation in Haldwani are found to be stemming from different factors such as physical geography, history and culture, and refuse to be explained by the singularistic logic of modernity allied to the influence of global capital (Marshall & Dolley, 2019; Benjamin, 2017; Cook, 2018), and to British colonialism (Chatterjee, 2014; Spodek, 2013). From a first glance at present day Haldwani, it is difficult to discern that this city is a result of considerable historical regional mobility (flows) of people, goods, services, and ideas. To study rurbanisation processes in Haldwani therefore it becomes indispensable to study the regional flows. This demands 'a readiness to digest plurality' (Prasad-Aleyamma, 2017, p.280), an openness admitting various rationales for how Haldwani has come to be that are institutionally and socially embedded in space and time (Benjamin, 2017). Friedmann (2011, p.427) suggests that one of the ways to study rurban is 'the study of particular city regions and their recent and contemporary spatial histories'. This method was chosen for the present research to eschew broad generalizations when contributing to the expanding body of rurban literature.

Premised on the understanding that (r)urbanisation is not merely a linear change in the way of life or in modes of production, but a

historical path-dependent process (Read, 2013), a historical analytical framework has been used to show that current resource governance in Haldwani is not unfolding in a time vacuum; it is an unbroken historical continuity which persists despite multiple fractures (Silver, 2013). A historical study of regional geography, its turning points and critical events, accentuates the understanding of Haldwani's contemporary expression (Ren, 2020). Cook (2018, p.706) observes about all Indian cities, that they were

sized and resized by different administrative, cultural, linguistic, jati (caste) and national contexts; imbricated webs of relations, which settled and unsettled the city's relative sizing as kingdoms rise and fall, states re-organize their internal and external borders and movements succeed or fail.

Most Settlements in the Himalayan context, for example, are linked with places of religious and political functions, carrying a local sense of identity and place with them (Mathieu, 2003; Narayanan, 2014). Some settlements have resulted from transitory nodes in trans-Himalyan trade (Rizvi, 1999; Kreutzmann, 1998). Then there were townships that emerged due to the impact of colonial rule like Nainital¹³ and Mussoorie, or those that developed on grounds of region's geopolitical sensitivity with China (Demenge, 2012).

A wider than usual net is cast in providing a historical account of the region; 'the usual' reach for rural scholarship being the 'colonial period' in India (Kundu, 2011, p.2). Schulz (2017) concurs that decolonisation of the hierarchy of knowing which inform research requires acknowledgement of the multiple seats of knowledge, and interwoven legacies of knowledge production without privileging anyone. Long temporal frames (since 7th century, based on secondary sources) facilitate a deeper understanding of the origins of urbanisation processes in Haldwani and their dynamics, thus lending a specificity to

¹³ For a Descriptive and Historical Account of Nainital see Clay (1928)

Haldwani's contemporary (r)urbanisation. Taking a long temporal frame facilitates emergence of urban livelihood pattern (Slater & Twyman, 2003) specific to rural Haldwani.

The chapter outline is as follows: After the introduction, the second section makes a case for studying the small city. The third section lays down the rationale for exploring multiple factors that lead to the emergence of Haldwani. It makes the case for detailing autonomous logics that have shaped Haldwani, calling into question the rather linear logic of capitalist modernity (Benjamin, 2017; Cook, 2018), and refuting that any one such as industrialisation, colonisation, neo-liberalisation may be used to completely explain the case of Haldwani. Section 3.3 situates Haldwani in the Himalaya, acknowledging that Haldwani's centrality is in part a function of its physical location. Sections 3.4 to 3.15 throw light on the socio-cultural and political developments in the region that have shaped Haldwani and its urban growth. Delineation of the various factors at work in the making of Haldwani attempted in these sections is made challenging by the intermeshing of various political developments in the region. The factors overlap and interpenetrate and could not have been laid chronologically. At any rate the recent events are not necessarily more dominant in shaping the growth of Haldwani than older events. The conclusion section summarises the analysis of preceding sections to reiterate the argument. It also draws an inference to help conceptualise rural thus leading into the next chapter.

3.2. A Case for the small city

This research is done in the context of a small city. In the Indian context, where a third of the urban population growth of the last two decades has been recorded in these urbanising small cities and towns, it is particularly important to prioritise them (Bhide & Burte, 2019). Significant growth in non-farm employment in India is seen in its small cities rather than the large ones (Chatterjee et.al, 2015), and at India's

present stage of development growth of these small towns is more effective in reducing poverty in the surrounding rural areas (Gibson et al., 2017). India's GDP has increased despite a downturn in growth in metropolitans, notes Harris-White (2016), indicating that informal economy of small cities is a key driver of GDP growth. Yet, most urban studies have been conducted around big cities in India (Waldman et al., 2017; Adelina et al., 2015; Vij et al., 2018; Narain & Prakash, 2016; Roth et al., 2019; Prakash, 2012; Roy, 2011; Priya et al., 2017; Vij & Narain 2016). The dynamics of urbanisation processes remain under-investigated for smaller cities (Marais et al., 2016; Bell & Jayne, 2009), especially smaller cities in the global south, for both plains (Mehta and Karpouzoglou, 2015) and mountain settings (Narain & Singh, 2019b). It has also been pointed out that the imbalance in regional development in India is partly due to a top-heavy urban system (Shaban et al., 2020), and the bias of its urban policies towards large cities (Khan, 2014; Kamath & Zacharia, 2015; Kundu, 2014; Tripathi, 2021).

This study doesn't dwell on critically developing a theory of small cities, collating instead an understanding of small cities from relevant academic debates. A good starting point is the 'secondary city' of Rondinelli (1983; 1985). He argues for decentralised investment in small (secondary) cities as a way for developing countries to reduce regional inequality. Their importance is also acknowledged in moderating the pressure on large urban centres (Tripathi, 2021). Tacoli (2003) too recommends studying such cities to learn about regional dynamics, that advances development both at regional and national levels. Before moving forward it is also important to address the label of 'small' and 'secondary' for cities like Haldwani. It is not easy to standardise the lower Himalayan small city for they exhibit much variation in population size, rate of urbanisation, water sources and other selection criteria (Kovács et al., 2019).

Smallness can be seen not only in statistical terms of population size and density, or of population growth but also of reach, influence, and functionality. Recently, Allen (2020, p.22) justifies favouring secondary over small when referring to Can Tho city in Vietnam in order to sidestep the population size metric and focus on '*positioning cities based on their national function or their role in regional development*'. This logic doesn't transfer neatly to the Indian context where it is difficult to gauge the national function of cities. What might be a primary city for the State of Uttarakhand might not be primary for India as a whole. It is especially so since in India it is the prerogative of individual States to decide which areas are urban and which rural. Cook (2018), for instance, explains with the example of Mangaluru city in South India, how the adjective 'small' is relation-based; urban hierarchy is imbricated and depending on whether Haldwani is seen from Delhi or from Nainital makes it a small or a big city respectively.

In studying such cities, Bell and Jayne (2009) even suggest eschewing the preoccupation with size, focusing instead on how cities engender a sense of place, self-images, aspirations, and other ways of acting. Haldwani, for example, has a niche as a gateway city, which makes it a small city. It functions as and is imagined as, the node that supplies services and goods and provides market to the mountains of Kumaon and connects them to the rest of the country. Its smallness may also be understood as the relative lack of urbanity when compared to the nearest metropolis (Delhi). Moreover, a dense intimacy of relations among the old inhabitants and communities of the city also contribute to its small-cityness (Cook, 2018).

3.3. Haldwani's urban experience: Coming together of a centre

Haldwani has been forged by the strong forces that emanate from the broader region. Regionality factors in those aspects of the everyday native life which are grounded in physical geography, socio-economic structures and shifts in political governance. It derives its explanatory

power from internal cohesiveness of structures rooted in context of its geographical history. Regional geography presented in this chapter is not only cognizant of factual history, but attempts a thematic imaginative description within a context, which for this study is (r)urbanisation of Haldwani.

Regionally, for studying rurbanisation, instead of seeing small cities of India as omnibus centres, they can be more fruitfully argued as networks of specialised clusters. The city that Haldwani is today, for example, has developed from several distinct temporary or seasonal settlements called *paraos* - a settlement feature¹⁴ throughout the lower Himalaya and the Bhabhar region. *Paraos* were not common campsites for all traders and passers-by; they were generally designated campsites for different social groups, and different functions e.g., dairy market, animal market, flour mill and so on. There were also seasonal settlements of people from Ranikhet, Chaukhatia, Dorahat, Bhowali (closely situated lower and middle Himalayan towns and cities) who would come down to Haldwani by October and return by April. There were also some disbursed permanent settlements of note near what is now called Haldwani city. Atkinson (1884/2014, vol.3) records that according to a report about cultivable land, revenue and irrigation made in 1837 to the East India Company's revenue board, there were seventeen villages in Kota (the western side of present day Haldwani) and twelve villages in Chhakhata (the eastern side of Haldwani now known as greater Haldwani) which had existed and where cultivation was being practiced before the British arrived in the region. These clusters, physically separated by forests, orchards, and agricultural fields, were collectively addressed as Haldwani.

As important it is to historicise the movement of people in and out of the region, it is equally important to follow the changing meanings

¹⁴ Many settlements of the lower Himalayan ranges and Bhabhar region still bear the word 'parao or padao' in their name e.g., *Bhotia* parao, Mangal parao, Painth parao, and Gora padao are some neighbourhoods of present day Haldwani.

within such movement (Tumbe, 2018). The prolonged campaign of British government for sedentarising a migratory population, for example, shows that the label of urban was clapped on Haldwani without attendant development. Infrastructure, that hallmark of an urban space, too appeared late in Haldwani. Already a town in 1885, there were no *pukka* houses in Haldwani till 1850, in comparison Nainital had 40 bungalows within one year of its establishment from 1841 to 1842. Electrification work in Haldwani began around 1949-1950, whereas in Nainital the town had electricity by September 1, 1922 (Pandey, 1937/2019). Water, similarly, was not provisioned through state installed infrastructure till late in the twentieth century. The growing population of Haldwani depended on *guls* that conducted Gaura's water mainly for irrigation. The patchwork of socio-spatial configurations such as *paraos*, *tandas*, *guls*, railway etc. reveal successive layers of Haldwani's history, and different institutional arrangements therein (Gu et al., 2015).

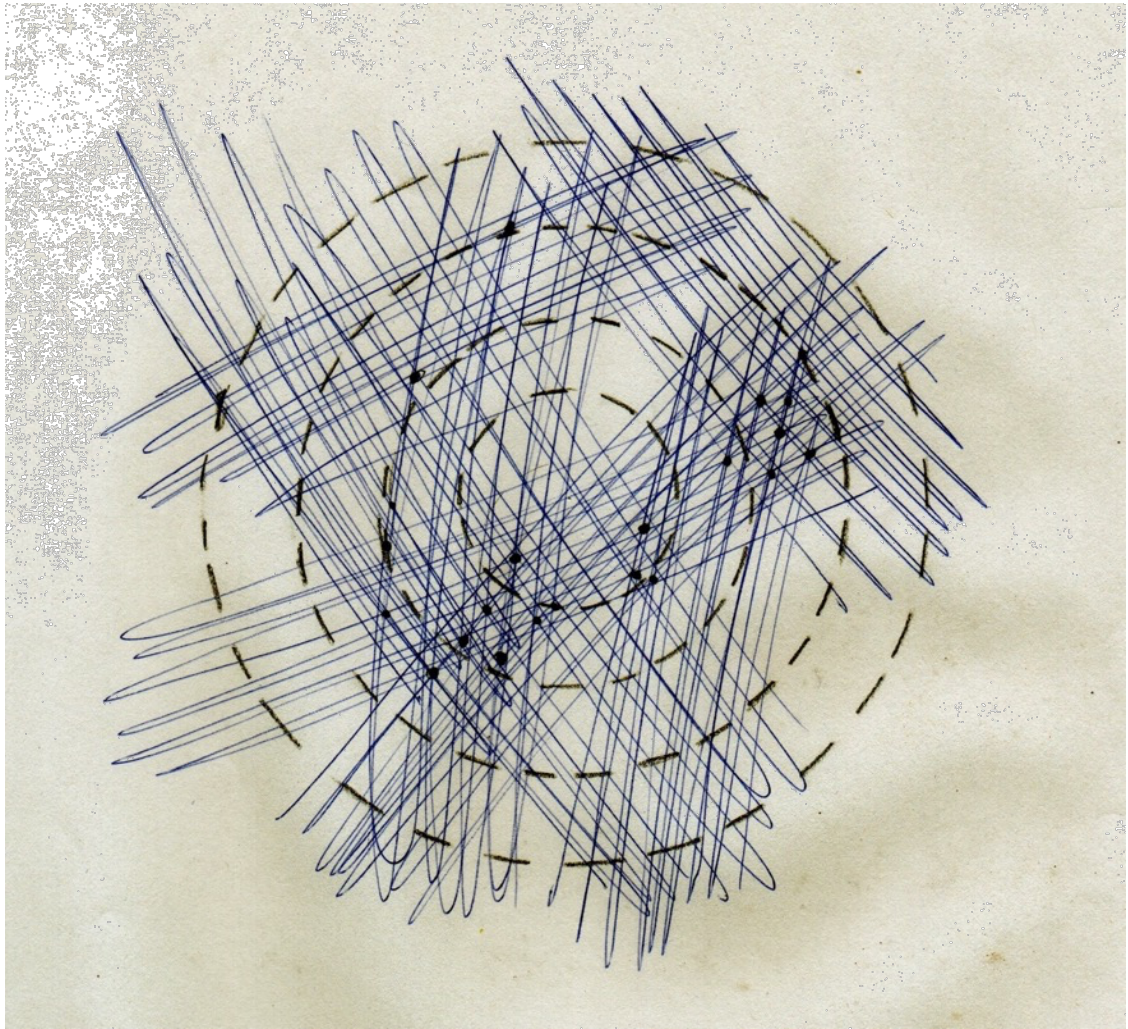
For determining the various logics that make Haldwani, familiar ways of looking at the city had to be forgone. That neoliberalisation is the origin point of (r)urbanisation processes in the global south (Gururani & Kennedy, 2021, pp.4), for example, had to be suspended, lest the biases of the theory bleed into the data at any stage of collection and coding process, and prevent an empirically inductive theory from emerging. Such suspension of the familiar thought framework opens up almost immediately the inquiry: If not the forces of privatisation and deregulation, then what led to the current form of Haldwani city? and derivatively, when if not in the last decades of the 20th century did these processes begin?

Historically, Haldwani galvanised regional linkages through Indo-Tibetan trade. It was a trading point where the goods from the hills were compensated for with the supplies of the plains. This is adumbrated in Bishop Herber's (Laird, 1971/2010, p. 212) journal on 22nd November 1824, '...At the same time they obtain an opportunity

of disposing of their honey and other commodities of the hills, and buying different luxuries with which the plains only, and the more civilised parts of Hindostan can supply them.' Overtime, shifts in political structure and resource governance shifted the highland-lowland interaction away from mutual dependence towards dependence (of highland on lowland). The previous linkages stoppered and its usefulness as a transit point waning, Haldwani is now a gateway city that anchors the regional economy of Kumaon. 'Earlier', as an interview respondent explained, 'the dependency of the hills on the plains was not that great. The 'hill people'¹⁵ came down only for necessary commodities like jaggery¹⁶ and salt. Now this place is too important for all of the (Kumaon) mountains'. Playing the role of a gateway city can be understood as a manifestation of a *niche* position, one of the factors understood to be contributing to the *smallness* of a city (Cook, 2018). A city *niche* role congeals when it becomes a part of the individual and collective imagination, as the respondent adds in unambiguous words, 'The one who rules Haldwani, rules the Kumaon. Political capital of the Uttarakhand might be Dehradun but the capital of Kumaon is Haldwani'.

¹⁵ referring here to the *paharis* mentioned above. The study uses 'hill people', 'mountain people', and *paharis*

¹⁶ Jaggery is a concentrated product of cane juice. Concentrated palm and date sap can also be used to make jaggery.



Schematic depicting flows of people and resources in the region through the criss-crossing, busy lines. Hand-drawn by the researcher.

The schematic illustrates the outside-in optic in examining the becoming of Haldwani, by studying the regional movement of goods, services, and resources for millennia, thus straying away from centric situatedness which would assume the urban centre itself as the place where such movement would emerge. The busy lines in this schematic represent regional mobility, connectivity and linkages. The lines are busy to represent the animation of these regions. Human activities vivified migratory habitations, seasonal agriculture, tribal settlements, permanent settlements, hunting outposts and winter bungalows of Kumaoni kings, and historical trails, halting spots, and marts for traders such as Banjaras and *Bhotias*. The pinpoints, many of them on intersections of different lines, represent settlements that were temporary, seasonal, and rarely permanent. The concentric dotted

circles aim to show how influence of regional linkages formed a diffused centre.

When superimposed on the map of present day Haldwani city, the outer circles of the schematic can also guide locating its rurban. By enveloping places radially distant from current perimeter of city, it recognises their inter-relationship with the city. Sitapur village (the research site), for instance 39kms uphill from Haldwani, is at enough distance as to quell any suspicion of it being rurban Haldwani by the established understanding of rurban (i.e., at immediate peripheries). It yet merits the designation because of a robust exchange and reciprocity of ideas, goods, resources, and services with Haldwani.

3.4. Physical Geography



Map 3: A 3D map identifying salient settlements in the region around Haldwani. **Source:** adapted from Google Earth

Situated in the north of the Indian subcontinent, Haldwani is a gateway city that connects, via a broad mountain pass, the lower Himalayan Kumaon hills with Bhabhar and Tarai. Its centrality however accrues

from an interaction of physical and political factors. Unlike the other two gateway cities in the Kumaon, Tanakpur in the east (at India-Nepal border) on the banks of river Sharda, and Ramnagar in the west, on the bank of river Kosi, Haldwani offered a straight route to Almora, the capital of Kumaon kingdom since around mid-sixteenth century (Dabral, 1965). One reason is that Haldwani's position is more central to mainland Kumaon in comparison to Ramnagar in the west and Tanakpur in the east. Ramnagar provides access between Kumaon and Garhwal divisions but is too far from the major cities of both the divisions to have become critical. Tanakpur on the other hand, provides access to eastern Kumaon, which although historically important, was no longer the epicentre of Kumaon kingdom, after king Balo Kalyan Chand established Almora as his capital.

Today, Haldwani is the largest city of Kumaon. With a recorded population of 156,078 as per the 2011 census, it is the third most populated city in the State of Uttarakhand after Dehradun and Haridwar (that lie in the Garhwal division). Haldwani is 280 km from the capital city of New Delhi. It is connected by 102 km of metalled road with Bhimdatta, a city in Nepal's north-western border with India. It is also extensively connected with the different parts of the country via rail and has an airport at Pantnagar (in the Tarai), 28 km to its south.

It lies in the Bhabar region, which is among the five major topographies of the State of Uttarakhand¹⁷, namely, the great Himalaya, the middle Himalaya, the lower Himalaya, the Bhabar and the Tarai (Dangwal, 2009). While I adopt this classification for maintaining uniformity in referring to regions in this thesis, it should be noted that the various parts of Himalaya are named just as variously and no one system of classification is consistently followed by geographers (Alter, 2019). The

¹⁷ Uttarakhand became an independent State, the 27th State of the Republic of India, on 9th of November 2000, having been carved from Uttar Pradesh. Uttarakhand earned its epithet "*Devbhoomi*" (meaning the Land of the Gods), due to the presence of large number of ancient Hindu temples and pilgrimage centres dedicated to a deity, demigods and other Hindu mythological characters.

east-west extent of the Himalaya is debated; where some take it to extend between Indus and Brahmaputra others include within Himalaya the mountains of Hindu Kush and Karakoram. The south-north extent is equally open to debate, exemplified in the Shivalik¹⁸ hills, which merge with the Himalaya in many places but are still considered a separate range (ibid). Colloquial referents/appellations of these topographical divides however appear frequently in day-to-day conversation. People refer to their friends, relatives or business associates for example as hailing from a region, especially referring to its altitude, rather than a city. This study is concerned with the altitudinal connectivities and linkages, the exchanges and flows between highland (Sitapur village) and lowland (Halwani).

The word Himalaya was transliterated from Sanskrit (Alter, 2019). In the Vedic and Puranic¹⁹ scriptures the Himalayan region has been described as a place of both pleasure and penance. 'The sheer dimension of the Himalaya, being the highest mountain range in the world, makes possible for it to contain diversity' (Fraser, 1820, p. 469). The Himalaya cannot be treated as a unitary socio-ecological niche (Pathak, 2016); each of the regions in this chapter (Tarai, Bhabar, and lower Himalaya) have ecological, economic, political, and cultural climates distinct from the middle or higher Himalaya (Dangwal, 2009; Sanwal, 1976; Alam, 2008) which are well documented in the literature on (HKH) Hindu Kush Himalaya (Rasul, 2014; Biggs et al. 2015; Salam

¹⁸ The variance in understanding leads to inconsistencies in spelling, with as many as four different spellings prevalent in scientific literature: *Shivalik* (Scott & Walter, 1993; Sati, 2020; Pande, 2019); *Shiwalik* (Joshi & Bhardwaj, 2015; Govindrajana, 2018); *Siwalik* (Gaur & Sharma, 2011; Joshi, 1990; Tiwari, 2008; Tiwari & Joshi, 2013; Das, 2015); and *Sivalik* (Shah, 1999; Hillary, 2012). Kumar et al. (2020) also point to the difference in how Shivalik is spelt in official reports of different ministries, Gazettes of India, dictionaries, and encyclopaedias.

¹⁹ Vedas are a large body of religious texts that originated in the Indian subcontinent. Derived from the ancient Indo-Aryan culture, the vedas literally mean 'knowledge'. Uptill the 2BCE they were transmitted orally to disciples by a sage or a sadhu. There are four Vedas, Rigveda, the Yajurveda, the Samaveda and the Atharvaveda. Which further have four sub-division – the Samhitas, the Aranyakas, the Brahmanas, and the Upanishads (Wilkins, 1978; Renugadevi, 2012; Vedas – Wikipedia). Purana `are defined by the Indologists as a class of Sanskrit literature that deals with the five themes of creation, re- creation, genealogies, Manu-cycles of time and the histories of dynasties. The total Puranic literature is divided into two categories (i) the Maha-Puranas that are eighteen in number and are supposed to deal exclusively with the five themes mentioned above, and (ii) the Upa-Puranas which are also eighteen in number and are written in the same style as the Maha-Puranas but deal directly with local cults and sects' (Das, 1968 pg. 141).

et al. 2017). Recent studies make a case for targeted policy perspectives along the altitude gradient in the Himalaya (Gupta et al., 2019).

Northernmost are the Great Himalaya, also known as *Himadri*. These ranges are about 30-50km wide and have high snow-covered peaks with heights above 7000m. Rivers originating here are fed by the glaciers, and rush down the steep slopes creating deep V shaped valleys. The *Himadri* therefore has little alluvial matter for supporting cultivation. These rivers as they descend into the middle Himalaya, with an elevation up to 3000m, create large basins of their own, washing hillsides and depositing rich soil (Singh, 1994). To the south of the ridges, spurs and basins of the middle Himalaya lie the lower Himalaya with the average elevation of 1200-3000m. In western Uttarakhand there are also found the *Shiwaliks*. These are small hills and have crests between 750 m to 1,200m. (Wadia, 1944; Burrard & Hayden, 1907; Bose, 1972). *Shiwaliks* are separated from the Lesser Himalayas to their north by a fault known as the Main Boundary Fault (Rawat, 1999).

Immediately below lies Bhabhar, a gently sloping tract at 350-550m above sea level. The gradual slope becomes apparent in the gushing *gul²⁰* water. Bhabhar is conspicuously devoid of surface water, most rivers and streams are subterranean, only becoming prominent during monsoon. Water here disappears under a vast dry belt of boulders and shingles, reappearing some kilometres away. Haldwani, situated in the Bhabhar, therefore, faces shortage of groundwater because bore wells are encumbered by the underlying rocks. Part of the Himalayan subtropical broadleaved forest ecoregion, Bhabhar has thick natural vegetation with *Sal* (*Shorea robusta*) trees near the hills, and large *Haldu* (*Adina Cordifolia*) and *Khair* (*Senegalia catechu*) trees nearer the

²⁰ A traditional Himalayan irrigation system where water is diverted from a rivulet, stream or a river by damming the flows and then directing the water through smaller channels. The fields are at a lower elevation which allows the water to gravitationally flow to the fields. Mostly farmers take turns to irrigate, regulating the flows in the process. The system is steeped in intimate knowledge of the region, perfected over generations.

plains. In fact, Haldwani owes its name to an abundance of *Haldu* tree in its vicinity.

The name Bhabar is derived from the Kumaoni²¹ word for the tall grass (*Eulaliopsis binata*) that is characteristic of the region²². Kumaon is one of two administrative divisions of the State of Uttarakhand, the other being Garhwal²³. These divisions are inherited from former kingdoms that have historically locked horns despite much socio-cultural and ethnic similitude. Garhwal boasts of a highly evolved tradition of pilgrimage (Singh, 2006; Bahadur, 1916), that locals of Kumaon believe is also a reason for Garhwal's superior development and greater exploitation as compared to Kumaon. Sax (2011, p.174) brings out the other common perception according to which Kumaonis are seen (by both Kumaonis and Garhwalis) as 'modern, progressive, and prosperous, with a Westernized elite', while Garhwalis are seen as rather simple people. Literary works on Kumaon region extol its natural beauty and rich resource base – the Himalayan flora and fauna (Bond, 2002; Harrer, 1953; Shah, 1967; Scott and Robertson, 1993; Bond and Gokhale, 2016). The geopolitical relevance of Kumaon comes from sharing border with China (western Tibet) on one side and Nepal on the other.

To the south of Bhabar, a narrow strip of land at the base of the Himalaya called Tarai stretches from Pakistan in the west to West Bengal (an Indian State) in the east. The belt of Tarai, 15-50 km wide, thronged with tall grasses and forest interspersed with swamps, was once a malarial belt that acted as a moat and protected the mountain kingdoms against invasions from the various powerful rulers of the Gangetic plains. Chatterjee (1939) notes, that in 1767, Tarai frustrated the hopes of the East India Company led by Captain George Mulich, as

²¹ Language of the people of Kumaon. One of the two socio-cultural regions of Uttarakhand State.

²² In Kumaon region, the Bhabhar or Bhavar includes the Bhabhar kota, Chakhata Bhabhar, Chilkiya and Chaubhensi Bhabhar.

²³ After defeating Gorkhas in 1815, the British brought Kumaon and a part of Garhwal under direct rule. The other part called Tehri Garhwal was ruled indirectly as a princely State, as it was restored to Raja Sudarshan Shah, heir to the previous ruler (Linkenbach, 2001).

they set out to defeat the Gorkhas. Illustrating the danger, Corbett (1944 pg. 175) recounts, 'My most direct route to Kot Kindri was to go by rail to Tanakpur... this route, however, though it would save me a hundred miles of walking, would necessitate my passing through the most deadly malaria belt in India'. Since the two merged seamlessly, much literature records the area as Tarai-Bhabar.

Tarai looks like the adjacent gangetic plains, but in fact slopes 12 feet in a mile (Atkinson, 1884/2014, vol.3), sloping imperceptibly towards the southeast, at 200-250 m above sea level. It is not uncommon, even among locals, to confuse between which geography qualifies as Bhabar and which Tarai. *Paharis*²⁴ and *maidanis*²⁵ have different understanding of where Bhabar ends and Tarai begins. The Tarai has a unique drainage pattern produced when the Indian tectonic plate sinks under the Tibetan tectonic plate. The landscape was once exclusively characterised by marshes and swamps resulting from water logging and flooding (Osmaston, 1927). Singh (1961) points that the difference between Tarai and the gangetic plains is the presence of water i.e., moisture in the soil and a higher water table.

²⁴ *Pahari* or *pahadi*: People residing in the hills (pahar) refer to themselves and their language(s) as *Pahari* (of the hills). It is a widely accepted and broad term for the ethno-linguistic kaleidoscope stretching from Nepal in the east to Kashmir in the West (see, Berreman, 1972).

²⁵ *Maidani* or *deshi*: Paharis refer to the people hailing from the plains (maidan) as *maidani*



Map 4: Map of Uttarakhand State showing its two divisions, containing 13 administrative districts. **source:** Wikipedia Kumaon division.

3.5. Trade and Temporary Settlements

Historically, Haldwani was a transit point, giving passage to the flows of goods and services, and creating a web of regional-international linkages. Under the rule of first the East India Company and then the British crown, new tax avenues were opened by controlling and regulating existing economic activities. Railroads too were laid on routes that closely followed old trade routes (Roy, 2003).

Several studies speak of the trans-Himalayan trade practices, products exported and imported, and the value of the transactions (Mookerji, 1912/1999; Sankrityayan, 1959; Mittal, 1986). This trade discernibly led to the emergence of transit points such as Haldwani (for central Kumaon), Tanakpur (for eastern Kumaon), and Ramnagar (for western Kumaon). Haldwani lay on the central route of ascent that led to the

high passes for entering Tibet (Roy, 2003) and was one of the four prominent markets in which the Himalayan Indo-Tibetan trade ended. Trade fairs, many held on occasion of religious festivals or in the honour of gods, were a prominent feature of the economic life of the locals in the Kumaon (Pandey, 2017; Walton, 1911/2016). In large fairs people from surrounding hills near and far would gather in a place to buy and sell their wares. Haldwani was a chief mart where large a fair was held every October on the occasion of Ramlila (Nevill, 1904/2016).

The Indo-Tibetan trade in the Kumaon was carried out by the *Shauka* and *Bhotia* people inhabiting the higher mountains of India, Nepal, and Tibet, who trekked the treacherous Trans-Himalayan region in physically and mentally challenging journeys. They practiced transhumance descending to the Bhabhar by the end of October and returned by the end of March. As mentioned before, Haldwani still retains the name of one of its localities as *bhotia parao* (the *Bhotia* camp). Pandey et al. (2017) note that Haldwani served as a trade mart where *Shauka* people converged during winter. The reciprocal relationship between the few sedentary communities of Bhabhar and the people practicing pastoral migration, included provisioning of camps and food supply for the herders and traders in return of services such as clearing of weed and stubble by grazing flocks and enrichment of soil through animal manure (Pant, 1935).

Market linkage between Haldwani (Bhabhar region) and the vast gangetic plains, up to the far-off southern kingdoms of the peninsula was provided by the Banjaras, the peripatetic traders who combed through the length and breadth of India. Kerr (2006) mentions that a banjara *qafila* (caravan) consisted of about 10,000 bullocks, each supporting 120-150 kgs of goods. The banjaras constituted a sizable portion of the migratory population of Haldwani. Nevill (1904/2016, p. 267) mentions that Banjaras, who were mostly musalmans (muslims) 'make the place their depot from which they carry their goods to Almora, Ranikhet, Nainital, and other hill markets'.

Banjaras, explain Raychaudhuri and Habib (1982), settled many a large camp called *tanda* on their journeys. To date there are hundreds of places in the country that go by the name *tanda*. The *tanda* near Haldwani is one such example, about which Atkinson (1884/2014, vol. 3, p.73) notes,

At present rape is carried away by Banjaras, who collect it at Tanda and other depots. They sell to Moradabad or Bareilly²⁶ traders, who again sell to men at Cawnpore²⁷ and from thence the seeds reach [sic] Calcutta. All these middlemen make their profits, but the railway to Ranibagh will change all this and bring the producer and shipper together.

Haldwani also had, during different months of the year, a certain population comprising of pilgrims. Nevill (1904/2016, p.268) mentions, 'besides the ordinary traders and travellers' large number of pilgrims halt here on their way to the great shrines in Garhwal²⁸, and the presence of these people in their thousands adds largely to the prosperity of the place'.

3.6. Servicing other cities

Presence of important cities in the vicinity of Haldwani has historically been a big reason for its growth. Establishment of Rudrapur (in the Tarai) reinforced the role Haldwani as a transit point. The growth of Haldwani was thus led by a permanent population on both its ends i.e., in the mountains to its north and in the plains to its south, making it ever more important as a mart for buying and selling goods, and as a halting point on the journey between hills and plains. The region on the

²⁶ Established in 1537, and from 1569 onwards ruled by the Mughals, Bareilly is a big city in the historical region of Rohilkhand. Bareilly lies 106 km south of Haldwani. The cities lie in a straight line on the Nainital-Bareilly Road.

²⁷ About 380 kms to the south of Haldwani, in the Indo-Gangetic plains of the Uttar Pradesh State, present day Kanpur city was established in 1207 CE by Rajput Kings (Kanhpuriya clan).

²⁸ The western part of Uttarakhand State. Also, a separate administrative division.

whole was what carried politico-economic heft, and Haldwani owes its growth to this intra-region interaction.

Rudrapur, about 30 km south-west of Haldwani in the Tarai, was founded in 1588 by Raja (King) Rudra Chand. It was a settlement of much political import. There is a record of as many as 21 mahals (palaces or palatial residences) in the Tarai in the *Ain-i-Akbari*²⁹ (Rawat, 1993). Walton (1911/2016, pp. 172 -173), notes that Rudra Chand was famous

for being the first Chand ruler to occupy in earnest in the sixteenth century, the Bhabhar and Tarai and to settle it thoroughly...Rudra Chand established governors in the different parganas³⁰ and founded towns... introduced many sensible reforms and instituted measures for the land settlement.

Another city in Tarai, called Kashipur, about 80 kilometres west of Haldwani, was also an important city containing ruins dating back to 606- 647 AD. Nevill (1904/2016) notes the presence of a flourishing cotton manufacturing industry of about 3000 looms in Kashipur. The largest annual trade fair of Tarai also took place in Kashipur, attracting about 70,000 persons who traded in the produce of Bhabhar region and the hills (ibid).

Later, the establishment of cantonment areas at Almora in 1815, at Ranikhet in 1869, and at Nainital in 1878 necessitated regular supplies to sustain the army. All the supplies were catered to by Haldwani. Nevill (1904/2016, p. 268) writes, 'Haldwani is used, when occasion requires, as a plague disinfecting station for all persons coming by rail from infected areas, and temporary plague hospital has been erected'. Upon

²⁹ A Persian book document in three volumes written by the court historian Abu'l Fazl in the 16th century detailing the administration of Akbar, much like a gazetteer. Akbar was the third Mughal emperor who ruled between 1556-1605.

³⁰ *Pargana* or *parganah* is an administrative unit that consists of many villages, first introduced in the revenue system of the Delhi Sultanate (1206-1526), continuing in many parts of India till Governor Charles Cornwallis abolished it in 1793 and replaced it with the district system. However, the expression *parganah* persisted as a geographical term in common parlance and in some official affairs such as land surveys and court decrees.

introduction of the railway in Haldwani, it was connected with the rest of the country, and was turned into the winter headquarter of the district administration of Nainital. Haldwani's municipal council too was placed under the charge of the District Collector of Nainital District (Nevill, 1904/2016; Tripathi, 2012; Pandey, 1937/2019).

Interest in Himalaya was on account of its salubrious climate, driving the establishment of summer residencies (Johnson, 2011; Alam, 2008; Kak, 2017). Nainital, for example, was developed as a summer home for British soldiers and officials. Several English boarding schools sprang up catering to the children of these officials. The first one is as old as 1850. After Indian independence, Nainital saw an increased traffic of Indians as both a tourist destination and a coveted centre for boarding school education. Haldwani's market grew as it became a centre for stocking school supplies such as uniforms, beddings, stationery, and tuck.

The growth of Haldwani is relational. It continues to be influenced in a major way by development in towns and cities around it. An invariable and clear picture of Haldwani can thus emerge from its edges rather than its centre. In the 1950-51 *Nagar Palika*³¹ Administrative report, chairman Pande presciently remarked that 'Haldwani and other towns in its proximity will attract industrial activity... mechanisation of agriculture...Kiccha, Kaladhungi, and Sitarganj will emerge as producers of raw material and will be instrumental in the commercial growth of this region.'

Bhabhar and Tarai saw establishment of many industries, in keeping with the push towards manufacturing enunciated in the first few five-year plans³² of independent India. At Lalkuan (18 kms south of Haldwani) Century Pulp and Paper Mills was started by the *Birlas*³³. In

³¹ *Nagar Palika* is the urban local body. Hereafter, the terms *Nagar Palika*, *Palika*, municipality, and municipal corporation are used interchangeably.

³² Five-year plans for the economy were made by the Planning Commission of India, which was dissolved in 2014 and its place was taken by the state think tank called NITI Aayog.

³³ Indian multi-national conglomerate

1984 when it started, it was allotted 25 acres, by 1989 it enclosed 500 acres of reserve forest. Interestingly, at present there is a contiguous belt of settlements from Lalkuan to Haldwani along the Gaula river. Lalkuan itself has developed into a township of about 7644 people. Similarly, the Pantnagar university³⁴, once a university campus, now harbours a township of 35,820 people, and many a smaller settlement dot the way between Haldwani and Pantnagar. At the turn of the century, about 3000 acres of university's land was reallocated for developing an industrial estate.

Haldwani has grown also due to the development in Sitarganj and Rudrapur. It should be noted that many of the *paharis* who have come down to work in Rudrapur, prefer to live in Haldwani for ease-of-living in the plains; amenities such as running water in the house and elimination of chores such as fetching fuelwood. Most companies thus run their own buses for the commute of their employees from Rudrapur to Haldwani. The industries have also attracted in-migration from the plains of Uttar Pradesh further fuelling the growth of Haldwani.

3.7. Continuities and Fractures in natural resource governance

Haldwani is a culmination of myriad regimes. Resource governance mechanisms of colonial Haldwani and Haldwani today are therefore a palimpsest of historical practices dating back several centuries, and others continuing unbroken or slightly modified for millennia.

Commissioner George William Traill (British commissioner of Kumaon between 1816-1830) authored several reports and letters to the revenue board and neighbouring district collectors about demarcating the boundaries of the Kumaon so that a revenue system legible to the

³⁴ Govind Ballabh Pant University of Agriculture and Technology was the first of its kind in India, with a campus spread over 12,661 acres. Norman Borlaug called it the Harbinger of Green revolution in India. To promote agricultural education in India, a contract was signed between the Technical Cooperation Mission and few US land grant universities (the University of Tennessee, the Ohio State University, the Kansas State University, the University of Illinois, the Pennsylvania State University and the University of Missouri). Up till 1972, the mentoring task was contracted to the University of Illinois, where 6-8 faculty members served full time for 2-4 years to design the academic and research system.

British government could be established (Atkinson, 1884/2014, vol. 3), especially between Bhabhar and Rohilkhand³⁵. However, a well-defined revenue system already existed. An elaborate system of economic resource management, for example, is gleaned from the *davatharas* which are the drafter records of the Chand kings who ruled Kumaon between 13th century CE to 1760 CE (Joshi, 1992, vol.2). They had 61 different kinds of taxes (never more than 20 active ones) including those on forest, water, land, mineral and animal.

Water resources in the pre-colonial period were governed by the communities, whereas the colonial period introduced private and state property rights as justification for efficient and judicious use and access. Before the British period there was no interference by the state in communities' water governance. Chands considered water to be a state asset. Which is why people had to pay tax for using water for irrigation, running a watermill, and fishing. That said, management of water remained largely a community effort (Joshi, 1992, vol.2).

British state assumed rights on all *benap* (unmeasured) land – waste and forest. Waste, explains Bhatt (2014), included land that was currently not under cultivation. What was interpreted as waste by the British was in fact village common property land that supported native livelihoods other than cultivation. During the Katyuri kings (7th -13th century) for example, the bases of categorisation of land were productivity and utility. Joshi (1990) notes *pallika*, *vritti*, *karmanta*, and *sarana* lands that referred to village land, land for livelihood, land with minerals and mines, and residential land respectively. Four units of land measurement were prevalent, and a special officer called *Kshetrapal*³⁶ presided over matters of cultivated land. Painstaking land classification and appointment of a designated officer prove that no

³⁵ The area of Upper Gangetic plains lying North-west of Awadh. The area boasts of rich history dating back to ancient India, its present name derives from the Rohilla Kings who ruled at the turn of 18th century.

³⁶ *Kshetrapal* or *lekpal* is the ground level functionary of the revenue department who keeps land and revenue records. This post is still there after a millennium and more.

land was 'waste'³⁷. Further, in context of waste land, Jodha (1985) explains that common property resource for grazing was comprised of village forests, permanent pastures, uncultivable land, and cultivable wasteland and croplands fallowed for longer periods. The failure of British policy to recognize the integrated benefits "waste" accrued to the locals disrupted many economic practices of grazing, rotational cropping, and foraging.

For smooth tenurial management and to ensure that settlers give up their migratory practices, Commissioner Henry Ramsay established Kham-Management in 1856; assuming control of all land in one sweep. This turned all cultivators into tenants of the government, paying rent and not revenue (tax) to the government. Although this rent not fixed but adjusted against the produce (Bhatt, 2014). In effect the cultivators were paying tax (in the name of rent) but no more enjoyed any proprietary rights³⁸. In the new rules, an individual was only allowed occupancy rights on the land that was cleared and cultivated (unlike under the Chands when a forest tract could be bestowed in land grant with full proprietary rights); all land that was not brought under cultivation remained at the disposal of the government (Douglas, 1920).

Despite sweeping changes made in ownership, governance was built on pre-existing structures. For example, in his 1823 report Traill as mentioned in (Atkinson 1884/2014, vol.3, p. 55,)

The gai – charai (grazing tax) had from time immemorial formed a part of the public assets in Kumaon (that elapsed momentarily as chaukidari³⁹ system was abolished in 1817) ...the arrangement

³⁷ Some categories of wasteland are: Gullied and/or ravenous land, Waterlogged and Marshy land, Land with Dense scrub, Mining wastelands, Barren rocky areas.

³⁸ As the hillmen descended, differentiated access to land made way for exploitation of landless laborers by the *asamis* (old proprietors). Gairola (1938) mentions that land reforms during British rule, such as Revenue Act 1901, Agra Tenancy Act, 1926, Uttar Pradesh Tenancy Act 1939 etc. could not be applied to ameliorate the deplorable conditions of cultivators in Bhabhar, because it was a Kham estate. For more details of the changes in land policy see Bhatt (2014) – Development of Tenancy rights in the Chhakhata Bhabar region of Kumaon Himalaya Under British Rule.

³⁹ In order to avoid the financial burden of employing regular military soldiers, the colonial police maintained a cadre of Chowkidars, that recruited mostly natives, to watch and guard localities.

in 1820 was made to re-annex the charai duties there to rent roll. The only other novelty in that measure was the simplification of the duties by fixing them at a specified rate per head of cattle...

The Chand custom of granting propriety rights to the person who clears the forest was continued by the British to populate the Bhabhar between 1815 and 1856; it was known as *nayabad*⁴⁰ rule (Bhatt, 2014).

3.8. Sedentarisation and Agrarianisation

The agrarianisation of Haldwani has been a dominant process in its urban growth. Under the colonial rule, as Blaikie and Brookfield (1987) show in case of other colonies as well, emphasis was placed on agriculture and particularly on cultivating cash crops. In fact, every successive British official strove for the vision of a prosperous peasantry, remunerative cash crops, and growing towns and cities⁴¹. Agrarianisation led to creation of a permanent population of *pahari* locals, pivoting from the earlier temporary and seasonal nature of settlements. In 1834 British administration declared Haldwani as a mart for the hill people and Bhabhar, a function it had already been serving for hundreds of years (Walton, 1911/2016; Nevill, 1904/2016). The temporary and seasonal settlements that had evolved in response to the migratory nature of their inhabitants, were combined by the British in an attempt to give the place a permanent character for increasing revenue collection. Thakur (2016), similarly, explores in North-East India a pre-colonial mobility, which due to the administrative exercises of the British such as drawing boundaries and constitution of districts, led to sedentarisation of people.

According to written records, for much of history, [the govern of Katyuris (roughly 7th-13th century CE) and of Chands (roughly 13th century to – 1790 CE)], Tarai and Bhabhar have been ruled by the

⁴⁰ *Nayabad* translates to 'new settlement'

⁴¹ See, Tucker (1983); Richards and McAlpin (1983)

rulers of Kumaon. In most accounts reference to Tarai-Bhabar during the Katyuri kings is made in the context of seasonal agro-pastoral migration (for trade and agriculture) practiced by the people of lower Himalaya, and in context of hunting. The population of Bhabhar was migratory, arriving in winter and returning to the hills before April. In 1823, Traill as cited in Atkinson (1884/2014, vol. 3, p. 56) wrote in his report to government,

the entire population of the southern parganah of Kumaon to the amount of certainly not less than thirty thousand souls annually migrate to the foot of the hills. The cultivation carried on by them in the Kumaon forests during these visits is considerable, and every means has been adopted to encourage it.

Since a chief object of British land policy was to encourage settlers to bring more and more waste land under cultivation, the revenue under the *nayabad* rule was maintained at a low level. The revenue was only realised after two years of settling, and care was taken to increase it in a stepwise manner. Atkinson (1884/2014, vol.3, p. 72) notes,

As a rule, new villages were allowed to be held free of revenue for two years that the settlers may clear the jungle and build their huts. The third year four annas⁴² a bigha⁴³ is charged, the following year six annas and then eight annas.

After 1832, forests were rapidly cleared, and the reclaimed land was leased out by the British East India company for agriculture. This was a break from the past because despite some scholars suggesting so (Rangan, 2000; S. Guha, 2000; Mittal, 1986), the economy of Uttarakhand until early 19th century was not a function of grain production alone (Dangwal, 2009). The finely balanced ecology of this area had, for time immemorial, encouraged a combination of livelihood strategies, as is verified in the variety of tax sources noted by British Commissioner Traill (1851, p.68) in his Statistical Sketch of Kumaon:

⁴² In British India 16 *annas* equalled 1 *rupee*.

⁴³ *Bigha* is a land area unit that is variable in size in different parts of India. 1bigha in Uttarakhand State equals 6804 square feet or 0.2 acre

The public revenue under the former rajas, arose from duties on commerce, agriculture, mines and law proceedings. An impost was laid on ghee, payable by the owners of cattle...The weavers throughout the province were also subject to separate tax.

Cultivation had been practiced in the Bhabhar and Tarai for centuries. The revenue records of Chand rulers indicate, says Joshi (1992), that in a year, two crops were harvested: *karttika* (autumn) and *jetha* (summer). People of Kumaon cultivated a wide range of crops ranging from paddy and wheat to sugarcane, tobacco, and potato (mainly in Bhabhar). Between 1625-1638 'the Tarai is said to have attained a high degree of prosperity' (Rawat, 1993, p.18). *Tharu* and *Buksa* tribes practiced slash and burn agriculture here. Other than that, hill migrants performed temporary cultivation in the winter months as they came down to graze their cattle. Atkinson (1884/2014, vol.3, pp. 59-65) notes,

In (1837) the Chhakhata Bhabhar from the foothills to Tanda there was some show of cultivation close to the *guls*...Chorgaliya...was well watered and well cultivated.' He also makes a mention of '...some villages that have been occupied since the time of the Chands'.

While surplus crop was always traded, the British government set in motion large scale commercialisation⁴⁴ of farming in both the mountains and in the plains of Bhabhar. Such large-scale cultivation, however, could not be sustained without an irrigation system. Thus was set in motion the extension and concretisation of the pre-existing irrigation system of *guls*. Commissioners J.H. Batten (1848-1856) and Henry Ramsay (1856-1884) concretised and extended the *gul* system of irrigation to incentivise hill people to come and settle downhill.

⁴⁴ Raper (1812) writes, that many fruits familiar to a European can be found growing in the wild, such as apple, apricot, walnut, strawberry, raspberry, currant etc. As these fruits gained commercial attention, they were made into cash crops. The British hill-stations soon saw a surge of fruit orchards.

The *guls* before the advent of the British were temporary that were repaired after every monsoon. Riparians collectively constructed, repaired and maintained the *gul* through community effort. Walton (1911/2016, p. 45) in describing the painstaking process of *gul* construction writes,

... guls cut along the contour line of the hills. The length of the gul varies according to the height of the land irrigated above the bottom of the valley and the fall of the stream. The headworks consist of a small temporary dam laid across the stream, by which the water is directed into the gul. As the channel of the stream is scoured deeper and deeper by the annual rains, it becomes necessary to raise the dam, and finally to abandon it and make new head works higher up.

If cities are characterised by produced environments, then the socio-environmental process – of making of *guls* - that transforms nature can be seen as a driver of urbanisation in the region (Swyngedouw, 1996; 2006; Swyngedouw & Heynen, 2003). As the British extended and concretised the *gul* system a crucial change was the shift from a supply driven irrigation system to a demand based one. Meaning, where earlier tillers appropriated water based on their right to land, after the British ascendance the irrigation department began deciding and allocating water as per tillers' demand and the department's assessment. This concept was referred to as 'protective' irrigation, where the available water is thinly spread over a large area as against 'productive' irrigation, where the supply covers the full water requirement of the crop.

Atkinson (1884/2014, vol.3, pp. 67-70) also notes that by the late nineteenth century, 'irrigation is extensively practiced throughout nearly the extent of Bhabhar', and '...there are no water-rates. Every stream almost is tapped and the water is regulated by sluice-gates placed at the head of each *gul*, which are opened and shut on a fixed plan, according to the extent of cultivation...'. To support increasing irrigation needs in Haldwani, lakes in the hills (Sattal and Bhimtal) were

embanked to serve as reservoirs to supplement the supply of Gaula river post February, when the natural flow in it reduced. This also is a reason for why Haldwani cannot be understood in isolation from the wider lower Himalayan region.

Sedentarisation of Haldwani's population brought it to depend on agriculture, influencing rural-urban changes in Haldwani. Even today a drive through Haldwani presents a curious sight of dense built-up areas interspersed with agricultural fields. Age-old seasonal migratory practices did not, however, cease completely. In an interview that I conducted in Sitapur village for example, the respondent explained that until 50-60 years ago, most people from his village would leave for Haldwani as winter approached and return uphill in March. Similarly, older residents of Haldwani verify seeing Bhotiya traders with their sheep that were saddled with leather bags, till as late as 1960s.

3.9. Timber, Forests and the Railways

The colonial motive of timber extraction resulted in far-reaching changes for Haldwani's growth. The stretch of road between Haldwani and Kathgodam, both important centres of timber trade and both railway stations, attracted development of businesses and other development on either side of it. At present Haldwani-Kathgodam is a twin township, administered by one municipal corporation.

The first train arrived on 24th April 1884 in Haldwani. The establishment of railways, for carrying freight, increased the significance of Haldwani for the British. Haldwani at the dawn of the twentieth century, writes Nevill (1904/2016, pp. 266-268), '... is now the biggest centre of commerce for the Bhabhar, and the opening of the railway has greatly enhanced its importance'. After the extension of the rail track, the erstwhile Bamoury Ghata⁴⁵, a few kilometres north of Haldwani,

⁴⁵ Ghata means pass. Bamoury Ghata was the pass from Haldwani into the lower Himalaya.

became a major British timber depot and acquired the name, Kathgodam (*kath* meaning wood, *godam* meaning depot).

Timber was felled in the mountains, tied with ropes and floated along the Gaula till Kathgodam where it was collected, stocked and loaded onto the train to be transported to Calcutta. Timber was then shipped to England and to other British territories, thus roping the Himalayan ecology in with global colonial market linkages. Becoming a critical juncture attracted growth in Kathgodam, railway and civil police began to be stationed here, a railway rest house was built adjacent to the station, telegraph and postal offices were opened, and it became a depot for non-motorised means of transport that ferried railway goods and passengers to and from the railway station (Nevill, 1904/2016).

Timber extraction, forest management, and railway are inextricably intertwined in the context of Kumaon. For laying down of railway lines in north India, the timber was sourced from the lower Himalayan ranges (Metcalf, 1979). Forests were found to be ready resources for timber needed to lay railway sleepers. Once the search for railway timber commenced in earnest, the colonial government set out to conduct more systematic surveys and put in place systems to manage timber harvest. German and French foresters were brought in to set up the Forest Department of India, thus introducing scientific forestry⁴⁶ (Winters, 1975; Stebbing, 1923). Scientific Forestry saw forests only in terms of sustained timber yield. As Agrawal (2005, p. 30) explains 'The specific features of vegetation that should receive the greatest attention ... were ultimately determined by recourse to those great devices of commensurability: prices and profits.'

The Indian Forest Law of 1878, among other legal categories of forests, defined Reserved forests as those which would be managed by the Forest Department for timber production and silvicultural

⁴⁶ See also, volume 2, chapters 1-2, Stebbing, 1923

improvement. Some forests were given the temporary label of 'protected'. These were taken out of general use until they could be assessed and planned (Tucker, 1982). Timber extraction under the colonial rule was done at an unprecedented scale with the help of new technology and improved accessibility (William, 1989⁴⁷; Parson, 1972⁴⁸; Williams, 2003⁴⁹), making irreversible changes in the local ecology (R. Guha, 2000; Sivaramakrishnan, 1999).

3.10. Diversified Livelihood Strategies

The economy of Bhabar region (Haldwani) was intimately tied with that of the lower and Middle Himalaya, and was a mix of livelihood strategies like foraging, pastoralism, agriculture, artisanry, and trade. Nearly all households in the Kumaon balanced their income with a mix of agriculture and some form of livestock rearing. Goats were reared for sacrifices and as food for the non-vegetarian people. Goats and sheep were also reared for sale, at a decent profit, to the *Bhotia* traders, who used them for carriage of goods. Cows were reared for their milk. Milk products such as *ghee* was sold locally as well as to the *Bhotias*.

Grazing declined as forests dwindled because animal watering points (lakes) began drying up. Chakkata Bhabhar had sixty-six lakes, whose catchment was progressively destroyed by the large-scale deforestation of the surrounding hills. Moreover, the forests were increasingly being managed in 'scientific' manner, and the traditional knowledges and norms of forest management were delegitimised (Robinson, 1998; Banuri & Apffel-Marglin, 1993; Marglin & Marglin, 1990). Cattle was deemed dangerous to the health of the forest belying the meticulously regulated grazing norms of the locals. Village heads or landowners had for centuries been collecting grazing tax per head of cattle from herders, thereby maintaining their commons. In

⁴⁷ In particular, see Part 3 of the book.

⁴⁸ See chapters 12 and 13 of the book.

⁴⁹ This book offers an insight from a global perspective.

redefining the right of ownership and use, scientific forestry replaced the subsistence use of commons resources by the locals and supplanted a commercial use of the commons after they were taken over by the state (Lanz, 2000; Blaikie & Brookfield, 1987).

The historical semi-nomadic pastoral way of life prevalent in Kumaon took a serious hit when, in 1890s, the British began targeting the migratory practices. Grazing in Bhabar and Tarai could now happen only on allotted lands from December to February and was charged at 6 *annas* per animal. Despite the discontinuities, animal rearing remains a common income stream for many households in the Kumaon region (Nüsser & Gerwin, 2008) and also within Haldwani, especially in rurban Haldwani.

3.11. Nationalism

In the nineteenth century, Haldwani was becoming increasingly critical in regional politics as the seat of power over all of Kumaon. During the first independence struggle of India in 1857, for instance, there were repeated battles between freedom fighters and British over the control of Haldwani (Pandey, 1937/2019). These attempts at occupation prove that Haldwani was seen by the people of the plains (there were few local revolutionaries) as a strategic point that promised control over the whole of Kumaon.

Subsequently, as nationalist sentiment gained momentum in the Kumaon, Haldwani witnessed the establishment of many public institutions by Indian leaders and social thinkers. Pandey (1937/2019) lists the following socio-cultural developments of import: Bacchi Gaur instituted a *dharmshala* in 1894; Babu Ram Prasad Mukhtar constructed the Arya Samaj Bhawan in 1901; In 1902, a Sanatan Dharm Assembly was constituted under the leadership of Pandit Chetalal Pujari and Pandit Ramdutt Jyotivridh; and Lala Babu Ram donated capital in 1931 for establishment of a middle school (present

Motiram Baburam Inter College). The rise of these institutions complemented the emergence of a collective voice in the Kumaon region, which was catalysed by the establishment of a printing press in Almora in 1893-94, and circulation of the region's first newspaper, *Almora Akhbar*, that explicitly critiqued the British policies and emboldened the revolutionary sentiment in Kumaon.

Once again, by virtue of its felicitous location at the confluence of hills and plains, came into the fold of the political goings on of the region, building a link between Kumaon and rest of India. The second meeting of Kumaon Parishad⁵⁰ held in Haldwani in 1918 criticised the British forest policy⁵¹ and passed a resolution against the oppressive practices of *Kuli Begar*⁵², *Kuli Bardayash*⁵³ and *Kuli Utar*⁵⁴ (Pathak & Bhakuni, 1987). Haldwani was the seat of Kumaoni revolutionaries who collected here in the building of Swaraj Aashram to ideate, plan and communicate ideas throughout the rest of Kumaon (Shukla, 2021a). Kashyap and Shah (1988, p. 13) note in their biography of Govind Ballabh Pant, a preeminent freedom fighter from Kumaon, that in 1932 the then District Magistrate of Nainital district issued an order prohibiting Pant from leaving the district, saying 'Pant is a dare devil pulling the chain from Haldwani.' Haldwani witnessed a series of events that occurred in synergy with national and local freedom movements like the Swarajya meeting (in 1917), the agitation of Rowlatt Act (in 1919), the session (in 1920) Kumaon parishad at Kashipur, Dandi March 1930, the civil disobedience movement (between 1930-1934), Quit India Movement (in 1942) and so on.

⁵⁰ Formed in 1916 was the local organisation that brought about socio-political awareness among the locals of Kumaon, connecting them to broader the movements of the Indian freedom struggle. In 1926 it merged with the Indian National Congress.

⁵¹ From, 1823 onwards, large tracts of forest were increasingly declared out of bounds for locals, curtailing their rights of wood-cutting and pasture. This severely compromised the sustenance of locals, who have historically depended on forest for fodder, fuelwood, minor forest produce, and for grazing livestock. Furthermore, prodigal felling of forests was done to make way for tea cultivation and to supply timber for the British shipping industry. Between 1915 and 1921 the locals retaliated to this exclusion by way of extensive forest fires targeting tree species that were commercially valuable for the British (Gadgil & Guha, 1992).

⁵² Kuli Begar mandated hill people to work for free, as load bearers for British Officials crossing through the village area

⁵³ Kuli Bardayash required supply of rations by locals to the British officials.

⁵⁴ Kuli Utar was the duty of the people, usually of the village head, to provide for a kuli (labour) and maintain registers for log keeping

3.12. Refugee inflow

A most immediate National concern after Indian independence in 1947 was providing refuge to people fleeing persecution from the brutal civil war during the partition of India. Tarai grasslands and jungles were systemically cleared to create about 50,000 acres arable land for settling the refugees and demobilised soldiers (Strahorn, 2009). In 1952, refugees from the State of Punjab (west Pakistan front) and soon after those from the State of West Bengal (east Pakistan front), were scheduled to be allocated land at 12 acres per family and 8 acres per family respectively (People's Union for Democratic Rights Report, 1989). During an interview in Haldwani, a respondent shared that after the *Bhotias*⁵⁵ stopped coming, the government officials started settling refugees (mostly Sikhs) at *Bhotia parao*. The old settlers call that area refugee quarter. The *paharis*, even 70 years down the line, treat the refugees as outsiders, referring to them as *sharnarthis* (refugees). This natal possessiveness of the *paharis* for the region has been and continues to be instrumental in shaping its socio-political and physical landscape.

3.13. National Security

It was believed that the Himalaya mountains provided a veritable protection against hostile powers (Nehru, 1986, p.74). The physical advantage and associated complacency were in part the reason why the region never saw any robust development efforts in the first fifteen years of Independence. After the disappointments of the Sino-India war in 1962, however, Kumaon invited attention on geopolitical grounds. A most remarkable development that Kumaon saw from

⁵⁵ Bhotiya is a broad term. Various groups of people in the Himalayan and Trans-himalayan region are either ascribed 'Bhotiya' identity by the state, or derive 'bhotiya' identity as descendants of the historical trading community. This study uses the term to refer to the people involved in trans-himalayan trade from antiquity uptill modern history. The *Bhotia* too cannot be taken as a homogeneous group, the *Bhotias* of Johari trade through Unta Dhura pass which lay 17,590 ft above the sea level. The Darma *Bhotia* trade through Lipulekh (16,789 ft) and Lumpia Tekh passes (18,450 ft). To know more about their diverse ethnicity and religious inclinations see (Nawa, 2000; Bergmann et al. 2011; Ramble, 1997).

having come under scrutiny, was the expansion of road network. The military road building program brought the furthestest villages on the border within reach (Nautiyal et al., 2003). In efforts to secure the borders and to integrate the local population with the mainland, national government intensified development efforts in this area through establishment of schools and strengthening administrative infrastructure (Chandrasekhar & Bhaduri, 2005). Road length of 360 km in 1947 expanded to a 6421km in 1991 (Rawat, 1999, p.118). The logic of national defence thus drove urban growth in Haldwani as it was a prominent centre on the route to a well metalled road, accessible to far flung areas. Intersecting regional and national aspirations now drove the growth of Haldwani. Its role as gateway city concretised with the impetus on development in Kumaon at large. Over the decades, stringent performance of the national border brought the populations in areas (of Kumaon) bordering Tibet and Nepal to depend more heavily on the lower hills, Bhabhar, and the plains.

3.14. From Uttar Pradesh to Uttarakhand

The socio-political developments of the region have always been essential in the growth of Haldwani. From the dawn of the twentieth century till attainment of Indian independence in 1947, the development in the Kumaon region, and consequently in Haldwani, was driven by the interests (political, economic, and socio-physical) of the hill people. Haldwani grew as it accommodated regional aspirations. A watershed event that led to a significant upswing in the growth of Haldwani was the carving out of the State of Uttarakhand from Uttar Pradesh, on the 9th of November 2000. Uttarakhand comprised of the entire portion of Bhabhar region and some portion of Tarai region. Haldwani emerged as the centre of a host of government offices of Kumaon region. Once Uttarakhand was formed, reservations were made for *paharis* in government jobs, which encouraged many to shift to the plains of Bhabhar and Tarai, also enabling migration of their relatives and friends.

From many of the interviews I conducted in Sitapur and Haldwani, it emerged that where until the turn of the century, residents of the cities of the Outer Himalaya travelled to Bareilly for advanced medical needs, after 2000 they could increasingly find these services in Haldwani, which was seeing a spur in development of medical infrastructure, with several private clinics, hospitals, and diagnostic centres. A resident businessman whose family had migrated to Haldwani in the early 1900s gives his analysis of the changes in Haldwani once Uttarakhand became a State:

Until the bifurcation, all businesses including dealerships of automobiles, hardware, electronics, building material, were serving their Pahari customers while based in Bareilly. When Uttarakhand State came into being, businesses spread to it, and most of them concentrated in Haldwani.

The continuing impact of formation of a new State on Kumaon region as a whole and on Haldwani can be understood by analysing the factors that had fuelled the demand for a separate State. After Indian independence in 1947, the erstwhile United Provinces (U.P.) of British India transitioned into Uttar Pradesh (U.P.) of independent India. This transition glossed over a fundamental difference in governance of Kumaon between the two UPs. Inclusion of Kumaon in British U.P. had not brought influence of plains on the administration of Kumaon, which, for the most part (between 1815-1920) had a commissioner of its own, and was exempted from interference of rest of British India (ruled by East India Company till 1857 and the British Crown thereafter). In the U.P. of independent India, however the governance of Kumaon was transferred to the traditional capital of the plains kingdom of Oudh⁵⁶, 350 kms southeast of Nainital, in Lucknow.

⁵⁶ Oudh or Awadh is the region in north India, marked by the rich alluvial plains created by dozens of Himalayan rivers that ribbon through it. The historical State of Awadh fell to the British after the Battle of Buxar in 1764.

Mawdsley (1997, p.2226) observes that 'the political and administrative systems of Uttar Pradesh, which are geared towards the plains...simply do not know or care about the development in the hills'. Capital expenditure by way of dams that tapped the rivers in the mountains, served the irrigation needs of the plains of Uttar Pradesh. Mittal (1986) too notes that the region of Kumaon has been backward even till the end of late twentieth century and reason for this backwardness was not the neglect and exploitation of resources but the incapacity of planners in the State to comprehend the needs of the mountains. A reason of neglect was also that the mountains made for only 4% of the population of Uttar Pradesh, meriting little electoral attention (Mawdsley, 1997). The solution of carving out a separate State for the *paharis* (hill people) promised them a distinct political voice in the federal system of government.

Among reasons that drove the demand for a separate State were the policies of the Uttar Pradesh Forest department. A bequest of the scientific forestry management system of the British, the department continued declaring areas as reserved or protected (Linkenbach, 2001, Agrawal, 2005) bringing them exclusively under state control. This led to rampant state-backed commercial logging along with revocation of customary rights that the locals had on the forests. Commercially valuable species such as the *chir* pine continued to be planted at large scale, that and imperilled locals' livelihood and disturbed agro-pastoral-forestry. In the fields, unlike broad leaves pine needles could not be used for mulching. Livestock did not graze on pine needles, neither could they be used as bed in cow shelter. Moreover, *chir* pine is highly inflammable, contributing to the frequent forest fires. These factors precipitated the Chipko Movement in 1973 – a popular agitation against felling of trees, where the *paharis*, notably the women, encircled trees to protect them from being cut.

Mass agitation and the voice for a separate State flared up again when in 1994 the Uttar Pradesh government passed a bill that made 27%

reservation in public sector jobs to OBCs⁵⁷. This was in addition to the 7.5% for the Scheduled tribe⁵⁸ (ST) and 15% to Scheduled Caste (SC). The remaining roughly 50% was left for open competition (high caste). Joshi (1990) estimates *Rajputs*⁵⁹ and *Brahmins*⁶⁰ constitute 85% of the population in the hill region, both of which are high caste. The legislation thus threatened the prospect of social and economic mobility for a majority of the hill people.

Another frustration of the locals (*paharis*) was the failure of Uttar Pradesh government to ensure allotment of land to them, in the plains of Tarai, as promised in resettlement plan. The first resettlement of 1945-46 commenced to settle veterans of the second world war (Strahorn, 2009). Barring a few well-connected high-ranking officers, only elites from around the country came to obtain large chunks of land on 99-year leases from government. In 1952, refugees from Punjab and West Bengal had to be allotted land in the Tarai as well. In practice however land cleared of forests for soldiers, refugees and peasants ended up in the hands of a handful of gentlemen farmers. A majority of refugees, *paharis*, and tribal *buksas* found themselves landless, often falling prey to encroachment by these gentlemen farmers. Debt also forced many to sell off their little landholding and work as labourers. Many of the large tract holders purchased land off the refugees. They thwarted efforts at land distribution by circumventing the Land Ceiling Act of 1972, that prevented anyone from holding more than 18 acres of irrigable land. Since the law only counted operational landholding, the actual land owned by the lease-holders, which included encroached land, remained outside its purview (People's Union for Democratic Rights Report, 1989).

⁵⁷ Originating from scriptures 'caste' is a traditional social stratification in India. Dividing society based on vocations practiced and social functions served, the system attempts to keep rigid boundaries allowing neither marriage outside of one's caste nor any social mobility from lower to higher castes. Independent India had made constitutional provisions safeguarding the rights of the socially and educationally backward castes under the umbrella of OBC (other backward classes). *Brahmins* are the priestly caste at the top of the pyramid.

⁵⁸ Constitution of India (schedule 5 and 6) recognizes many Indian Tribes as Scheduled Tribes (ST), many lower castes as scheduled class (SC) to streamline affirmative action.

⁵⁹ *Rajputs* fall under the *khastriya* caste, the warrior class. In the varna system they are placed below the priestly caste.

⁶⁰ *Brahmins* are the priestly class, the highest caste.

Most of the gentlemen farmers of Tarai happened to be *maidanis* (referring to people of the plains). Many people from the plains also purchased land in the mountains after the 1991 liberalisation reforms in India. Withdrawal of trade barriers, deregulation of markets, removal of licensing restrictions, and strengthening of banking sector had brought financial mobility to people. Since the umbrella term *maidani* includes all plains people, not sifting the rich from the poor and the refugees, *paharis* came to view all *maidanis* as usurpers. The region saw agitations on account of this imbalance of rights. This bone of contention that fed into the demand for a separate State continues to the present, twenty years on. The differentiated outcomes of land allocation and distribution therefore had social and political implications for Haldwani today.

3.15. Demographic shifts in Kumaon and their impact on rurbanisation of Haldwani

Haldwani's growth can in part be explained by increasing in-migration of *paharis* from the Kumaon. The reasons are many: poor access to health care facilities, missing road connectivity (infrastructural deficit), absence of water supply, rain-fed agriculture, lack of employment opportunities, aspiration for government services (Mamgain, 2016). This is part of the larger trend of the steady migration of populations out of lower Himalayan settlements (Yamaguchi et al., 2016; Tiwari & Joshi, 2015), leading to high population density and rurbanisation in and around small cities (Kovács et al., 2019) of adjacent plains districts.

Haldwani offers an avenue of social mobility for the *paharis*. The new settlers in and around the city could be broadly divided in two categories: the well-to-do *pahari* people who fancy a second home (typically a winter home) in Haldwani and *pahari* farmers buying agricultural land at the periphery of Haldwani. The lower property

prices of these peripheries, in comparison to the centre, make them an attractive avenue for new settlers and businesses, as is clearly visible by new plotting in the peripheries. Infilling in Haldwani is now taking place in Halduchaur, Motinagar, Motahaldu, Lamachaur and other peripheral areas farther out to the south of the municipal boundaries. They offer besides shorter work-home commute and affordable rents, lax regulations, minimal checks and controls in resource (water) use and appropriation, and cheaper land in comparison to the urban centre.

Paharis ascribe a high value to living in proximity of their familiar natural environment. As per the estimate of many interviewees, 80% of people in Haldwani are *paharis*. For the hill people, Haldwani became an attractive location because of its foothill topography, that keeps them relatively close to the traditional way of living. The process of shifting from the hills usually begins with one family member securing a government job (a common aspiration among *paharis*), who then buys a piece of land, developing it over the years, and occupying it permanently after retirement. This long-term process of step-by-step building and improvisation of houses and neighbourhoods by *paharis* lends Haldwani a distinctive temporality, it is a space perpetually in the making (Caldeira, 2017).

An interview respondent from a *pahari* community explains,

paharis prefer to stick with people of similar upbringing, ones who speak the same language, and have similar community guidelines or culture. Therefore, most of us aspire to have a house in Haldwani, so that in days to come our children can have a smooth life, and yet not lose touch with their roots. This also makes it easier for us to transact business with others in the mountains, because of the 'bhaichara' (brotherhood). And it's a big thing, especially in the context of the mountains. If you can speak the language and talk to them the way they want to, business is much easier.

Settlement patterns (socio-spatial configurations) are thus marked by cultural propensities. Communities other than *paharis* are conspicuous by their absence. Upon enquiry it came to the fore that residents are hesitant to sell land to any outsider. A respondent put it pithily, 'until a *pahari* is in dire straits he will not sell to a *maidani*.' This aversion to *maidanis* is not based on caste or language differences. It is rooted in the geographical differences. A *maidani* hails from the plains and in the collective imagination of the *paharis* remains tainted with the stressed political history (Strahorn, 2009; Mawdsley, 1997). Thakur (2016) shows through the comparable case of the North-eastern Indian States of Nagaland and Assam, that a hill-plain binary formed between theretofore mobile and interacting population of the two regions in consequence of the sedentarising policies of the colonial and post-colonial state. Consequently, people in the region avoid buying land in *pahari* settlements, because the community presents a united front against any outsider. Besides in the everyday negotiations and contestations of resource use and access, outsiders expect to be completely overpowered by the community in case of a conflict or conflict of interest.

It is of critical importance however that most of these peripheral areas are not outgrowths of Haldwani, they are pre-existing villages, that have either evolved contemporaneously with Haldwani, or pre-date Haldwani itself, for example, Motahaldu. This is not to say that outgrowths are not observed in Haldwani's case, but in India it is common to find pre-existing villages being termed as outgrowths (Singh & Narain 2019), because they find themselves adjacent to a highly urbanised area. Bartels et al. (2020) make a case for context sensitivity for telling apart the various terms that are used interchangeably such as suburbanisation, peri-urbanisation, urban fringe, outgrowth and the likes.

As per the 2011 census of India, 65% urban areas in India were categorised as Urban agglomerations (UA). The urban agglomeration

of Haldwani includes the towns of Haldwani and Kathgodam and 13 outgrowths. Outgrowth may be a hamlet or a village or a block constituting a group of villages and *Bustis*⁶¹. But a few minutes in the apparent outgrowth of Haldwani and a preliminary enquiry reveals that it has existed since before the deemed centre. Applying the state nomenclature of urban agglomeration to Haldwani does not capture its historical geography. Haldwani hasn't grown outwards from an urban core, it has existed historically as sort of diffused collection of small, seasonal settlements.

3.16. The politics of rural-urban classification in Haldwani

Demographic shifts also influence the categorisation of a settlement as rural or urban. Pradhan (2013) shows that between the figures of 2001 and 2011 census of India, about 30% of growth in urban population is a result of in-situ reclassification of rural to urban areas. A hitherto rural area gets classified as a census town when it attains the tripartite census criteria of a minimum population of 5000 persons, density of 400 persons square kilometre, and 75% of male population employed in non-farm sector. Census towns in 2001 formed only 7.6% of urban population of India, by 2011 their share rose to 14.5% (Government of India, 2016, p.21). The other way rural gets classified as urban, as is the case in Haldwani, is when the urban local body incorporates within it a physically contiguous rural or rural settlement.

In 2017, the State government of Uttarakhand proposed to add about 52 more villages (36 wards⁶²) to the city area in Haldwani-Kathgodam *Nagar Nigam*⁶³, which will increase the total area of the city from 14 km² to 58 km² (Madhwal, 2017). The *gram pradhans* (elected head of the village council) of villages that were to be included in the city,

⁶¹ A basti (also spelled busti or bustee) is officially defined as a collection of huts standing on a plot of land of at least one-sixth of an acre or less than one-sixth of an acre (one-fifteenth of a hectare). The majority of basti dwellings are tiny and unventilated. They have few sanitary facilities, and there is very little open space.

⁶² Municipalities are further subdivided into wards for administrative and electoral purposes.

⁶³ Municipal Corporation

however, opposed the government's move on grounds of improper sanitation facilities and lack of basic amenities for the people in the city (Madhwal, 2017; 2018a). Eventually in 2018, before the election for Mayor (the head of the Municipal corporation) the said villages were added to the civic body's limit (Nagar Nigam's purview). The then Chief Minister of the State exempted the residents of the newly urban areas from paying house and sanitation tax for ten years. Previously, in 2014, Jawahar Jyoti Damuadhunga neighbourhood was added to the municipal limits of Haldwani, and its residents were given tax exemption up till 2021 (Lall, 2021). The tax liability of commercial establishments in the new wards has also been pegged at a lower rate than the rest of the city. The newly constituted urban area now has roughly 5500 commercial establishments, including malls, hospitals, schools and hotels. Instead of 25 wards earlier, the city now has 60 wards increasing the area to four times its previous size and swelling the urban count roughly by 120,000 people. Thus, the in-situ reclassification of rural (the said 52 villages) as urban has been achieved by expansion of urban boundaries.

In absence of adequate tax revenue, Haldwani's municipal corporation has requested a sum of Rupees⁶⁴ 3 crore (30 million) from the State's urban development directorate, to commence service provisioning of the new wards (Shukla, 2021b). Two and half years since their addition in 2018, these areas have no municipal arrangement for waste collection and cleaning (Shukla, 2021c). A resident says in an interview, 'if our area was cleaned even twice in one week, I too would have experienced what it feels like to live in a city'. Waste management under stress which is generating discontent among the residents. In a demonstration of dissatisfaction regarding use of a city park as a garbage dumping site, residents of Vanbulpura locality in Haldwani, performed yoga atop a garbage pile on the International Yoga Day,

⁶⁴ At the time of writing this chapter 1 US Dollar was equal to 74 INR (Indian National Rupee).

harking back to the original purpose of the park i.e., use by children and adults for recreation and fitness purpose. (Azad, 2021).

While local leaders include neighbouring villages to increase their political power (swelling vote bank), the process is never peaceful. Defining rural and urban tends to be a complicated and contested process (Singh & Rahman, 2018). The acute hesitation of peripheral villages to be incorporated in municipal limits follows from a few different reasons of equal import. Foremost is the fear of loss of power on part of village heads. Second is the increased cost of living paid by urban residents by way of various tax obligations, e.g., higher rates for electricity and water, property tax, etc. and regulations such as building by-laws. Third is the exclusion from supportive government subsidies, and schemes for the rural areas. A fourth reason is the aversion towards filth and congestion visible in other areas under the municipal corporation (Madhwal, 2018a). The city's sewerage treatment plants and waste disposal systems fail to process the enormous quantity of added waste (Shukla, 2021c). In another study, Van Duijne (2019) recounts the reasons given by Ragheepur village's *mukhiya* (head) for the reluctance towards becoming a part of the urban local body of the adjoining city of Samastipur, in the State of Bihar: fear of loss of local power and autonomy on part of the village head; fear of increased cost of living due to taxation; fear of loss of rural development funds from central and State governments; and perception of city as 'dirty' with 'problematic sanitation'.

It is also useful to compare rurban in context of a small city with rurban in context of big cities. One such insight is that re-classification of rural areas as urban by way of expanding urban municipal boundaries, is not universally desirable and could be often fraught with tension. Residents of rurban Haldwani, for example, while having a foothold in the urban centre (in terms of employment, or other services) could defend their rural way of life. In comparison, villages adjacent to metropolises such as Mumbai and Delhi aspire for inclusion within city limits for

considerations like hike in real estate prices. Hui and Wescoat (2019) talk about the case of Pharsungi village, a 50,000 persons strong village council which wants to be a part of the municipal corporation of the adjacent Pune city, in hope of accessing urban development funds and schemes. Another major difference in rurban of Haldwani and rurban of metropolises is ethnicity. The latter comprise of the immigrants of different social and cultural backgrounds, whose sense of belonging or bonding with the place is very low (S. Liu et al., 2022) whereas the rurban areas of Haldwani are populated by the locals of Kumaon i.e., *paharis* who experience no alienation from their culture upon moving to Haldwani.

Just as the present reclassification in Haldwani presents a case of conscripted representation and expansion of municipal boundaries for political reasons, the boundaries of its municipal council have historically been mired in dispute. Moreover, Haldwani has a history of being labelled urban without attendant infrastructure. Nevill (1904/2016, p. 267) notes the shifting official status of Haldwani, '(it) was *constituted* a town under act XX of 1856 in 1885, and on 1st of February, 1897, it was *converted* into a municipality; on 1st April 1904 it was *reduced* to the position of a notified area under act I of 1900' (emphasis added). Its status of municipality was revoked when it was found that it doesn't meet certain criteria of the act of 1900. It was only in 1942 that Haldwani became a municipality again. Tellingly, electrification work did not begin till 1949-1950 (i.e., two years after India's independence), prior to which public lights were apparatuses of kerosene lamps secured to wooden stumps.

The Haldwani - Kathgodam *Nagar Palika*⁶⁵, which was to bear the yoke of development of the city, comprised only of a six-kilometre-long road between Haldwani and Kathgodam. Moreover, every settlement on its flanks still came under Kham administration, the system established in

⁶⁵ *Nagar Palika* is the urban local body. Hereafter, the terms *Nagar Palika*, *Palika*, municipality, and municipal corporation are used interchangeably.

1856 by Commissioner Henry Ramsay, according to which all activities that happened on the Kham land, and every department (irrigation, revenue), was subsumed under the jurisdiction of one person – The Kham Superintendent. This ambiguity induced free riding. People availed of the *Nagar Palika's* service (road maintenance, for instance) but did not pay taxes because as residents or business owners in the Kham they were not liable to pay any tax to the *Nagar Palika*. They circumvented toll tax by virtue of residing in the Kham area while the houses that the locals rented out were chargeable at the circle rate of the *Palika*. This way, revenue collection became complex and service provisioning proved challenging.

By the mid-20th century, the Kham-*Nagar Palika* dichotomy began to draw critique from higher administrative officials. Finally, it was proposed by the *Nagar Palika* that all structures situated within 2000 yards on either side of the main road should be brought under its purview, and the Kham boundaries done away with⁶⁶. This transition was not without its challenges, as the annual administrative report 1947-48, reference No. 269/IV-3, dated 31st May 1948 notes,

the smaller tenants have been given an impression that they would be mercilessly taxed and would be deprived of the benefit allowed to them under the agricultural debt relief acts and also that their properties would be rendered liable to auction for their debts. These half-truths have persuaded them to old legacies.

Even though Kham was abolished in 1950, *Nagar Palika* continued to struggle. Tripathi (2012, pp.71 -72 translated from Hindi by the author) comments about *Nagar Palika*,

Its narrow boundaries have long been the reason for its pitiable fiscal conditions. It is said that at one time the situation was so dire that the Palika found itself unequipped to even pay staff-salaries, and the incumbent chairman Mohd. Abdullah had had to pay them out of his own pocket.

⁶⁶ Reference no. 407/IV-3 dated 11th June, Annual Administrative Report 1946-47

3.17. Conclusion

Arguing that the small city of Haldwani emerges from multiaxial logics, this chapter represents as closely as possible a dialogue with the actual Haldwani, by 'mapping the cacophony of economic activities and social locations that it engenders' (Prasad-Aleyamma, 2017, p.280) and putting them in a historical perspective so as to bring out the continuities and discontinuities in its rurbanisation. Different factors, events, and processes at different times reinforced one another to make Haldwani indispensable to the region, thus leading to its growth. Socio-spatial aspects of Haldwani's rural-urban change, such as extent of its municipal boundaries and its built environment have been historically shaped.

A fresh understanding of these small cities of the global south is not precluded by the fact that they exist in a world of the western city or large cities where a comparison with them is unavoidable (Cook, 2018). This chapter, for example, shows that Haldwani's smallness may be understood as deriving from its history of being a trade mart over centuries, rather than as 'variation of a form'. Haldwani's role as a gateway city for the Kumaon that has historically provided services to the region and whose present growth too is led by this role, becomes important as fears rise about small cities losing on economic growth in the increasing shift from manufacturing-led growth to services-led growth in the global south (Rodrik, 2016).

Chapter 4 Conceptual Framework

4.1. Introduction

This chapter lays down the conceptual framework of this thesis. Rurban is conceptualised as a dynamic space that exhibits interpenetration of urban and rural, allowing for not only an urban influence on the rural but also rural influence on the urban, and is understood through processes of rurbanisation rather than seen as a function of radial distance from the urban centre. Water governance in a rurban space is understood through a critical institutional perspective, studying the changes in and emergence of practices, norms, and codes of conduct surrounding resource access and use.

The concept of rurban is necessarily provisional on account of constant transformation. It is challenging to define the spatial limits of rurban spaces as they are in a state of constant flux and most activities arbitrarily cross any defined boundaries. The understanding of space is taken from Massey's (2005, p.9) conceptualisation as 'the sphere of the possibility of the existence of multiplicity in the sense of contemporaneous plurality; as the sphere in which distinct trajectories coexist; as the sphere therefore of co-existing heterogeneity'. Not to be seen as half-baked urban, poised between the spatial categories (and scholarships) of urban and rural, of interest only by virtue of its functional integration with the city, rurban needs attention as a space that is a mixture of both rural and urban (Wu & Keil, 2020; Coelho et al., 2021; Gururani & Dasgupta, 2018; Upadhyaya, 2017). That said, rurban is not the same everywhere; the rurban phenomenon unfolds differently in different contexts. By virtue of the polymorph geographies that are its province, the concept of rurban demands an exemption from being all-encompassing.

Studying smaller settlements has the potential to nuance the understanding of the diverse rurban processes and structures in India (Ren, 2021). Notwithstanding the view of urban scholarship that rurban is characterised by an obstinate rural that renders the process of city-making incomplete (Ren, 2021), the focus of this study is on how rural and urban interpenetrate and not the replacement of rural by urban (Lerner & Eakin, 2011; Kumar, 2016). In India, moreover, there are pre-existing villages in the vicinity of most urbanising spaces (Shah, 2012; Friedmann, 2016). For example, many of the newly emerged Census Towns⁶⁷ are located in rural areas, away from the major cities (Van Duijne & Nijman, 2019; Guin & Das, 2015).

Since the divide between urban and rural is blurry, many institutions intersect and overlap in governing natural resources (in this case, water) in rurban spaces. Moreover, activities are inter-mixed, defying categorisation into statutory, non-statutory, traditional or customary institutions (Roy, 2009), creating what Kadfak (2019, p.278) calls 'an entangled peri-urban governance setting', and Narain and Nischal (2007) call an institutionally complex arena. This thesis builds upon Frances Cleaver's work on institutional bricolage that takes an open and non-linear view of institutions. They are understood as dynamic mediators between natural resources and society, individuals and communities (Cleaver & De Koning, 2015).

This study adopts institutional bricolage, more pointedly, to understand how in a rurban space new institutions emerge and older ones evolve. Institutional bricolage provides vocabulary for analysis of the interaction of new institutions with existing ones on the ground, and the outcomes of such an interaction. Customary and statutory institutions are hybridised by local stakeholders, referred to as bricoleurs, to produce rules that are adapted to local realities.

⁶⁷ Settlements that have a population size of 5000 and more, density of 400 persons per kilometre square, and over 75% of male workforce employed in non-farm activities. Census towns are not yet statutory towns i.e., they do not yet have a municipal body, and continue to be governed by *gram panchayat* (village council).

Emphasis is laid on the agency of bricoleurs, their social and power relations, and historical continuities to embed the resource governing institutions in the local context.

In its opening, the chapter presents a literature review, discussing relevant approaches to studying the problematique of the rural-urban riddle to situate the rurban. Section 4.3 discusses rural-urban classification criteria and their shortcomings and implications on rurban governance. Section 4.4 presents the three tenets that contribute to and nuance the concept of rurban. Section 5 segways into rurban water governance and makes a case for studying institutions to comprehend it. Section 6 lays down a selective history of institutions concerning natural resource governance. Section 7 details institutional bricolage, its sub-sections focusing on agency; the processes of institutional bricolage; institutional plurality; and social and power relations. Conclusion reiterates the conceptual framework for first understanding what rurban is and then to study how water is governed in a rurban space.

4.2. Rurban

This part lays down the conceptual framework for the first research question: How do the processes of rurbanisation unfold in context of a small city in India? Parts of the concept of rurban are teased out from literature review and others are induced from the empirics. A lack of accounting for rurban areas is also brought out through critique of the criteria for classification of rural and urban.

4.2.1. Making sense of the rural-urban puzzle

The concept of rurban in this thesis gains its rigour by critically engaging with the different literatures that explain rural-urban changes, finding similarities as well as differences with them – a kind of theoretical shopping around. It veers away from an all-encompassing theory towards a theoretical production that

accommodates the local character of appraisal, is non-centralised, and hopes to establish its validity without a visa from the canon (Halberstam, 2011).

This chapter searches for a suitable lens to study the rurban in context of a small city in India. How the city itself is understood has a bearing on how rurban in its context is seen. Western historicism penetrates the global urban narrative according to which, cities of the global south should be modelled on the 'neoliberal precept ... capitalist market mechanisms ... private property and ... good governance' (Sheppard, 2013, p.894). Provincialising this urban narrative Gururani (2018, p.42) states, 'Europe's history as we know is a regional story, and the analytical frameworks emerging from that historical experience have a limited purchase for rest of the world'. Localising the Americo-european urban narrative poses an issue of theoretical transferability (Bell & Jayne, 2009, Cook, 2018, Robinson & Roy, 2015). In the case of this research the rurban emerges as a result of multiple factors and not only neoliberal globalisation.

The main point of engagement developed in this thesis is the sprawling peri-urban literature. To begin with, it must be pointed out that there is no consensus in the literature on how peri-urban should be referred. Debating the choice of term may turn out to be a rabbit hole (Bartels et al., 2020), especially since many studies use interchangeably the terms peri-urban, urban sprawl, urban outgrowth, suburban, exurban, dis-urban, rurban, rural-urban fringe, rural-urban continuum, rural-urban linkages or urban frontier (Aijaz, 2019; Mohammed Firoz et al, 2014; McKinnon et al., 2017; Thomas, 1974; Kurtz & Eicher, 1958; Duncan & Reiss, 1956). Tzaninis et al. (2021, p.231) for example use 'suburbanisation' as an umbrella term to include 'a vast variety of expansions of form and process at the urban edge: informal settlements, gated communities, tower estates, kampungs, desakota, peri-urban villages and, yes, classical subdivisions of ground-related housing.' It is not uncommon to see preference given to one term while

the implicit meaning aligns with another (see, for instance, Dutta, 2012; Tian et al., 2017).

Rurban rids us of the assumption of a core. Since the concept has branched out into multiple appellations, it becomes important to situate the study at hand. This study strays from the nomenclature of 'peri-urban', justifying instead the use of the term 'rurban'. Justifying the term used, by describing the context and relating it to its larger geographic context, has been done to avoid losing the way in the terminological miscellanea. Rurban befits the context of this research, representing the role of both rural and urban in the making of a rurban space. There is also an etymological justification for adopting the nomenclature of rurban. The very word peri (periphery) assumes a core, as exemplified in (Kaika, 2004, p. 273) 'no periphery without a core'.

Using the term rurban instead of peri-urban doesn't solve the problem entirely though because it too is used variously to refer to various spaces and phenomena. A case in point is the differentiation of peri-urban and rurban as attempted by Hui and Wescoat (2019), who understand the two spaces influenced by the urban but this influence of urban is seen as something negative (sanitation problems, congestion) in the first and as something positive (increased amenities) in the latter. Barros et al. (2018) also differentiate between peri-urbanisation and rurbanisation. They understand peri-urbanisation as the process of dissemination of economic, social, and cultural features of urban on to the rural, in addition to the city's physical expansion into the rural. Their definition of rurbanisation is the movement of swathes of people from the urban centre to the rural. In another example, the term rurban, in the European context, is applied to rural settlements that are influenced by closeness to a metropolitan centre or to a major tourist area (Buciega et al., 2009). While these uses of rurban have some commonalities with the rurban referent of this study, there is none which is a complete overlap.

Since rurban work suffers from loose usage of the term; studies rarely define or explicate rurban in context of the research, leaving it instead to the imagination and understanding of the audience. In order to differentiate the rurbanisation process unfolding at a particular site from other similar processes such as exurbanisation, suburbanisation and others, Bartels et al., (2020) argue in favour of supplying a rich context to establish the processes of rurbanisation as they unfold in the site under study, observing practices for studying the transformation underway, and analysis of power relations among resource users in order to uncover access inequalities.

In the developing south, or particularly in India, rurban is usually characterised by an increasing heterogenous population, diversified employment, small land holding, rich countryside homes, slums, intense resource appropriation, contested resource access, lax regulations, unregulated land use change, urban waste dumping space, environmental issues, and being a supply ground for - service provisioning - the closest urban centre (Allen et al., 2017; Bunting, 2007; Roy-Basu et al., 2020; Mukherjee, 2015; Sreeja, 2017; Shaw, 2005; Mehta & Karpouzoglou, 2015; Karpouzoglou et al., 2018; Das, 2017; Janakarajan, 2008; Packialakshmi, 2011; Chabukdhara, 2016; Dhingra et al., 2008 to name a few). Most of these studies look at rurban from the urban out, as a derivative of urban (Goonewardena, 2014; Angelo & Wachsmuth, 2015; Tripathi, 2021; Roy, 2009, Yiftachel, 2009; Simone, 2004; Robinson, 2011), without any agency accorded to the rural which too is a part of rurban.

Studying rurbanisation with the urban (or the city – though they are not synonymous) as a centripetal force, disregards several regional socio-political logics and economic particularities that represent the global south, and biases our understanding of this spatial and structural transformation. Guin (2018), for example, opines that only villages surrounding large cities, and of those only a handful, undergo

transformation because of large-scale industrialisation. Rurbanisation is not necessarily led by the city or its demands, but also effected through various non-city-centric situated processes, that must be empirically explored. Yet, empirical regularities are elusive, for instance, two cities of similar size are not bound to exhibit similar features in their rurban, simply because different cities change at divergent rates, and have socio-cultural, economic, political, as well as environmental differences that create incongruous situations (Simon et al., 2006). It is further reasoned that similarity of structure (such as size) of the urban center does not guarantee a similarity in underlying processes of change in the rurban (ibid). As a corollary it can be argued that despite observable similarity of features and way of life (i.e., rurban`ism`) in rurban areas of cities of different sizes, the underlying processes (i.e., rurban`isation`) that shape rurban may be different.

Looking from the urban out, rurban is seen from an urban gaze, as a `natural` consequence of urbanisation, where urban is the centre, the developed and densely populated core (Nottingham & Liverpool Universities, 1998; Rakodi, 1998). Rurban, then, becomes a consequence that happens at the fringes of urban where the expanding urban meets the rural (Dadashpoor & Ahani, 2021; Budiyantini & Pratiwi, 2016; Colleoni, 2019; Yigitcanlar et al., 2015; Shaw et al, 2020). Rurban in this sense is seen essentially as pre-urban. Despite acknowledgement of their role in leading the trajectory of India's urbanisation, as the cradle for multi-scalar processes that bespeak India's growing global engagement, and as sites of overlapping governance of rural and urban (Gururani & Kennedy, 2021), rurban spaces still continue to be seen as a step on the way to urbanisation (Sutton et al., 2006). This leaves rural bereft of all agency because urban is seen as the animating force mainly responsible for the rurban phenomenon. In case of India where many rurban areas are in fact pre-existing villages outside cities, treating all rurban as deriving from the urban centre obfuscates their reality (Mishra & Vij, 2022).

Since the way we see a problem can influence what we see, this study veers away from the urban gaze, which assumes the eventual inclusion of the rural in the boundaries of urban. This addresses an epistemic gap that Simandan (2019) points is inherent in how we receive information about the world. The gap lies between reality that is 'possible' and reality that is already realised. Derbyshire (2020) concurs that in geographical knowledge production often the present materialised reality tends to influence how future possibilities are perceived. A study of rural has to be awake to 'what might be' instead of leaning towards urban as an eventuality, not as contingent but as necessary.

The eventuality of the whole world becoming (or already having become) urban is the premise of Planetary Urbanisation. It argues that today's world (encompassing people and places) is urban, linked and tied through urban forces or influences; thus, rendering the concept of rural futile (Brenner, 2013). Brenner and Schmid (2014, p. 21) explain that

urban represents an increasingly worldwide, if unevenly woven, fabric in which the sociocultural and political-economic relations of capitalism are enmeshed ... even socio-spatial arrangements and infrastructural networks that lie well beyond traditional city cores, metropolitan regions, urban peripheries and peri-urban zones have become integral parts of a worldwide urban condition

For the global south, however, claims of planetary urbanisation tend to dilute the relevance of geographies, such as rural and agrarian, that are closely linked with the urban (Roy, 2016), ignoring differences in people's lived reality (Schindler, 2017), furthering the marginalisation of cities in the global south (Buckley & Strauss, 2016). Moreover, in the Indian context it's inaccurate to view spatial connectivities as urban phenomena, and as being particular to the twenty-first century. There exist a diverse set of studies that note the social, political, economic and ecological transformation and integration of urbanising India since

the beginning of eighteenth century (Gillion, 1969; Lewandowski, 1975; 1977; Chaudhuri, 1969; Dobbin, 1972). And plenty more accounts describe the exchange of goods, resources, knowledge and culture in ancient India (Watt, 1972), for example, see Kurian, (2020) for Trans-Himalayan trade; Sen (2006) for cross cultural encounters between ancient India and ancient China; Warmington (2014) for description of the commerce between the Roman Empire and India.

Urban-centric theories tend to gloss over contextual specificity. In India, for example, the primary transformation is that of a rural space to an urban one and not so much the movement of people from a rural to an already urban place (Mukhopadhyay et al., 2017). Yet the role of 'rural' has been undermined in most rural studies. The peripheral zones and urban fringes largely rural, and their transformation has direct implications on development policies of these spaces. That said, rural transformation scholarship also only explains part of rural reality. Rural transformation is understood as the movement away of rural societies, under the influence of global forces, from dependence on agriculture, developing linkages of goods, services, ideas, and trade with distant places as they come out of relative isolation and turn into small towns and cities themselves, culturally more like urban agglomerations than like rural societies (Berdegué et al., 2014; Wang et al., 2013; Higgins et al., 2021). The scholarship tends to equate rural with the agrarian and the isolated. In the case of India, neither applies. Historically the economic life of India's villages has featured, besides agriculture, a range of activities from trade to industry, maintaining linkages with far and near urban centres both socio-politically and economically. Moreover, the blurring rural-urban divide in Sitapur village (rurban Haldwani) cannot be explained through rural transformation perspective because it tends to privilege global drivers (such as agri-food systems becoming globalised) of such change rather than local, contextual factors.

The factors influencing growth and development of many small towns and cities in India are more local (regional) than national or Global. Denis et al., (2012), Zérah and Denis (2017), and Mukhopadhyay et al. (2017) build on this understanding in subaltern urbanisation, emphasising that smaller settlements should be studied apart from the big cities, and not merely in contrast to or as reflections of big cities. Many such settlements have emerged due to historical or market forces, completely independent of proximity to a metropolis. Subaltern urbanisation upholds that such small settlements may grow and interact with local and global settlements in their own capacity. Acknowledging the link of their work with the vast literature on subaltern studies, Denis et al. (2012, p.52) concede that to locate their work 'within this intellectual tradition ... is for others, with a deeper understanding of this tradition'. I agree with their position, not the least because appraising the relationship between subaltern urbanisation and subaltern studies is outside the scope of this thesis.

To deal with the problematic of Indian-small-city-rurban this study attempts 'a more globally informed social science' (McFarlane, 2006, p. 1417), making pragmatic use of ad-hoc theory instead of abandoning concepts that fail to explain to explain it fully (Adell, 1999). By moving past treating the ideas of urban and rural as mutually exclusive, this thesis lets them serve rurban literature as important analytical lenses (Simon et al., 2004).

4.2.2. The Rural-Urban Conundrum

It is important to acknowledge that rurbanisation produces 'more-than-urban geographies' (Connolly, 2019). In India, the urban centres and countryside are closing in on each other. A new diffused space is emerging with both rural and urban characteristics, the elements of either are found in both rural and urban households. As things stand, spatially, socially, as well as economically, rurban is integral to both rural and urban systems. There are unique challenges in developing an understanding of and defining the rural-urban interaction or nexus

(processes of rurbanisation). These challenges are inherent in the classification of rural and urban.

The definition of what is rural and what is urban is context dependent. Where some nations follow population-based parameters (population strength or density), others focus on local governance structure. For example, in Pakistan, Bangladesh and Sri Lanka a settlement with municipality, municipal corporation, any other town committee or urban council would count as an urban area (United Nations, 2011). The USA has 'Urbanized Areas' (UAs) of 50,000 or more people or urban Clusters (UCs) of at least 2,500 and less than 50,000 people' (The United States Census Bureau, 2011). In the United Kingdom, the 'built up area' is employed for classifying urban areas and if an area falls outside of a settlement with more than 10,000 residents, that population is considered rural (GOV.UK., 2016). In Denmark an urban is classified as a built-up area with at least 200 inhabitants living with 200 metres whereas the threshold in India is 5000 people with 400 persons per square kilometre (1,000/square mile) or higher, and 75% plus of the male working population employed in non-agricultural activities.

Even though the varied scales through which urbanisation is estimated and projected globally, prove that there is no universally accepted way of comparing or even comprehending urbanisation, yet the labels of rural and urban are far from becoming redundant. Statistical estimation and projections are often employed as economic proxy (see Potts, 2015). Academics other than those in the social-science circles, policy makers, governments, corporate houses, multinationals, investment firms, development agencies still give weightage to the general statistics estimated for rural and urban (Potts, 2017a). The onus of what is deduced from the definitions and labels, lies on the reader. It is therefore important to understand the ways in which these statistics are disseminated, interpreted, and how powerful actors translate them to inform policy decisions.

There is a growing scholarship that points to discrepancies in how countries estimate and project their rural and urban, and the implications of those definitions (Satterthwaite, 2006; Cohen, 2004; Montgomery, 2008; Montgomery et al., 2004; McGranahan and Satterthwaite, 2014; Potts, 2017b). Qin and Zhang (2014) point that the increase in urbanisation of China is not exclusively a result of development but a result of definition that is 'crafted' in a way that more areas fall under the urban category. Montgomery et al., (2004) takes the example of Beijing city and describes how neighbouring districts were counted as urban because of their functional link, though they were more rural in nature. He adds, such moves can drastically affect not only the percentage of urban population but relative urban-rural poverty. In a like manner, Jones (2014) explains how Thailand's urbanisation rate is lower than that of Philippines, despite the fact that per capita income is higher in Thailand; the criteria for urban classification is stricter there.

Not only are empirical tests for what qualifies as urban varied, there is also the provision for places to be classified as urban if they bear an urban character or exhibit urban features. Gait (1913, p. 29) notes about the census definition of Town in the 1911 census of India, 'In framing the definition the object in view was, as far as possible, to treat as towns only places which are of a *more or less urban character* (emphasis added)'. The subjective nature of what is an urban feature has been acknowledged in the 1961 Indian census (Mitra, 1964, vol 1, Part II-A, p. 51) one of the criteria for a place to be classified as urban was that 'the place should have, according to the Superintendent of the State, a few pronounced urban characteristics and amenities'. Defining such characteristics however leaves 'room for vagueness and discretion' (ibid).

The present day urban 'definition' in India is a colonial inheritance. Gait (1913, p. 29), notes that for the census of 1911

The definition of a town was the same as in 1901. For the purpose of the census the term was held to include -

- 1) Every Municipality.*
- 2) All Civil Lines not included within Municipal limits.*
- 3) Every Cantonment.*
- 4) Every other continuous collection of houses inhabited by not less than 5,000 persons, which the Provincial Superintendent may decide to treat as a town for census purposes.*

Until the census of 1951, the definition mentioned above was followed. In the 1961 census, besides the above criteria, additional, stricter criteria were observed for a place to qualify as urban: '(a) a density of not less than 1,000 per square mile; (b) a population of 5,000; (c) three-fourths of the occupations of the working population should be outside of agriculture' (Mitra, 1964, vol 1, Part II-A, p. 51). For 2021 census all requirements for classification of urban remain the same except that statutory towns with population of 1,00,000 and above are now categorised as cities. The rural however is still treated as residual category; whatever falls outside the urban classification is rural; it's the 'everything else' (Majumdar, 2020; Bhagat, 2005).

Several studies (Satterthwaite, 2007; Indian Institute for Human Settlements [IIHS], 2011; Denis & Marius-Gnanou, 2011; Uchida & Nelson, 2010; Jones & Corbridge, 2010; Van Duijne, 2019; Ellis & Roberts, 2016) in India explain how the definition keeps several rural areas out of the urban count because they fail to meet the criteria for urban category. How rural or urban India is, is therefore not faithfully reflected by the current census metrics (NITI Aayog, 2021). While the census indicates what is urban and what is not, it is the State government at whose discretion areas are declared urban and consequently accorded municipal status (Bhagat, 2005; Aijaz, 2019). States have their own administrative definitions of rural and non-rural (Purushothaman et al., 2016), based on which they seek funds from Central government for rural development (as there are additional

funds available for rural development). It is strategic to label an area as rural because an urban categorisation would also require service provisioning and setting up of other necessary infrastructure. Second, due to the prevalence of customary rules and regulations, it (rural and urban) is taken as a 'flexible space', that can be moulded and re-moulded as required. There can be serious ramifications to this; schemes and funds may be executed where they are not needed, at the cost of areas which are in dire need of those funds.

Besides, rural cannot be pinned down as a spatial category based on occupation primarily in agricultural activities. Due to the exchange of goods, services and resources between rural and urban, it is difficult to spatially separate them based on livelihood activities. For example, urban activities like mills, warehouses, residential parks now exist in the rural, and rural activities like agriculture is growing as a part of urban lifestyle. In Sitapur village (research site), most farmers and tillers are not engaged in agriculture apart from sowing and harvesting seasons. In order to run their households many of them engage in seasonal employment, taking up non-agricultural work in nearby towns and cities. In his study of a village in Western Uttar Pradesh, Kumar (2016) finds that less than a quarter of all households identify cultivation as the primary occupation. In wake of India's jobless growth, most former agricultural workers find non-agricultural jobs locally as opposed to far off urban centres (Choithani et al., 2021). It should serve as an indicator of the volume of employment generated within the rural that 45.23% of registered MSMEs, and upto 60.22% of unregistered ones are housed by rural areas. A peek into the MSMEs reveals that rural is no longer only about agriculture, but caters to national and international markets of handicrafts, jewels, carpets and more (Ministry of Housing and Urban Poverty Alleviation, Government of India, 2017).

The census statistics are static and decadal, not purposed to faithfully reflect the complex and dynamic processes of urbanisation. As the

rural-urban boundaries blur, the threefold criteria-based definition of the census of India won't capture the realities of this process (Samanta, 2014; Sircar, 2017). In fact, in view of the complex rural-urban linkages and the transforming agricultural sector (land-based activities) in the global south, argues Reichenbach (2020), the spatial and sectoral dichotomy of rural and urban does not apply.

Douglass (1998) points that a consequence of the rural-urban dichotomy is the very actuality of division in planning and policies: on one hand, the consideration of urbanisation is to achieve regional integration, the policies of which reflect an urban bias (Lipton, 1977), and on the other hand, rural development policies see the urban as something exploitative that excludes rural interests. Most rural policies on the other hand hold a rural bias; little is expressed in terms of how the urban can be integrated in rural development. Mattingly (2009) proposes that policy and planning for rurban areas be more targeted, instead of being extensions of rural or urban planning. The traffic between rural and urban blurs categorical division, yet the categories serve as political and administrative tools (Gururani, 2018; Hommes et al., 2019). Narain (2014) and, Narain and Dik (2021) lament the lack of attention given to processes of rurbanisation, as policy largely follows rural-urban dichotomisation.

Surpassing the numbers attached with rural and urban is imperative for embracing the rural-urban conundrum in the rurban. Rurbanisation perspective suggests that we reformulate our terms of engagement with settlement geographies. It looks at the flows of goods, services and resources that connect the two, giving insight about the livelihood practices, rural-urban migration, resource-governing systems, and transforming gender relations (Narain, 2020; Roth et al. 2019; Vij & Narain, 2016).

4.2.3. Conceptualising the Rurban

The next three sub-sections detail the tenets of the concept of rurban as employed in this thesis.

4.2.3.1. Overcoming the 'ism-isation' muddle

In recent years, urban literature is embracing the interchangeable use of the terms urbanisation and urbanism. Upon enquiring into the genealogy, the following broad understandings of the two terms come to fore: urbanisation is the mass movement of people into city, often characterised by an employment shift from agricultural to non-agricultural activities; urbanism is the urban way of life and how people identify with it, or in other words movement of urban ideas, values and beliefs into the rural (Uzzell, 1979). In parallel, 'rurbanisation' can be understood to mean the processes of how urban expansion occurs, like changes in rural-urban flows (resources, goods and services) and land use change, and 'rurbanism' becomes the frontier where the urban and rural 'cultures are diffused'.

Urbanism or rurbanism - as way of life - is rather abstract and is a function of perception or subjective opinion. Sheppard et al. (2013) call into question the general consensus around urbanism as an indicator of development, modernism, progress, and the metropole. In another example, Halkatti et al. (2003, pp.151-152) use following indicators to define the rurban: 'rural values'; 'Immigrant population'; 'Industrial development and proximity to the highway and to the bypass'; 'commercialization'; 'degree of alcoholism, gambling and other urban influences'. It is unclear however as to what makes alcoholism or gambling urban? How does one assess rural values? For instance, a person in the village could be as urban as a person in the city centre and a person in the city could be as rural as a person in the village. So, on what basis would this person be categorised as an urban or rural resident? And does one need to move to an urban space to be categorised as urban?

Applying the way-of-life lens can lead to the absurdity of categorising places as (r)urban without the attendant changes of (r)urbanisation. There are for example several remote settlements in India that are only accessible through walking trails, they don't yet have road connectivity, primary healthcare, or school but surprisingly feature other physical infrastructure such as DTH⁶⁸, or in the very least smartphones. Should the place then be called rurban? Spelling out rurbanisation and rurbanism separately does not insist on their unfolding in mutual isolation; they tend to manifest together. Using rurbanism as an entry point into a rurban enquiry however befogs the path forward, because in and of itself a change in way of life doesn't explain the textured underlying processes of that change and one and all (sites) qualify as rurban.

4.2.3.2. Rurban exists only at the boundary of the city

Rurban has most commonly been defined by a place-based definition and in this sense also referred to as rural hinterland or studied as a peri-urban interface (PUI). The 'place based' understanding defines rurban as a settlement proximal to an urban centre (Halkatti et al., 2003; Von der Dunk et al., 2011; Busck et al., 2006; Bunker and Houston, 2003; Audirac, 1999; Opitz et al., 2016). There have been many recent studies on the growth of place-based rurban, the legal and administrative aspects of its growth, including factors such as their political and administrative boundaries, planning and zoning regulation, cost-benefit share (Dadashpoor & Malekzadeh, 2020; Balta, 2016; Zhang et al., 2014; Amati, 2016; Hortas-Rico, 2015). In the developing context, however, much of the credibility of place-based approach weakens, because the rural – urban boundaries are constantly blurring and co-creating new settlement frontiers. Developing countries are characterised by their large population and clustered settlement pattern. Bjorkman and Venkataramani (2019) for

⁶⁸ DTH (Direct-to-Home) TV uses direct-broadcast satellites for transmitting signal for satellite television.

example question where boundary of an expanding city may be marked to clearly ascertain what lies 'inside' and what 'outside'; and how rural and urban horizons fuse together. Socio-spatially, the rural and urban are mostly closely knit, where the periphery of one urban centre ends, that of other begins.

This thesis contends that rurban cannot primarily be defined in relation to a place. The concept of rurban allows for rural-urban duality, spaces that feature overlapping institutional logics. Locating rurban in a place can only happen when rurbanisation processes have been shown to occur in that place. Such an understanding of rurban divests the peripheries of the sole claim on rurban since many rurban spaces exist within the city boundaries. There are, for instance, pockets of rurban surrounded on all sides by highly urbanised spaces, that dot the city of Gurugram (Narain & Singh, 2019a). A process-based definition of rurban (rurbanisation) similarly permits locating the rurban of a city quite far out from its physical boundaries given strong linkages (flows of goods, services, and resources) can be established between the two spaces. The rurban sites chosen in this study, for example, are not physically contiguous with the city boundaries. To borrow from Lynch and Poole (2006, p. 82), 'Although they may be geographically distant, they could arguably be defined as peri-urban to varying degrees because of the importance of the city to their society.'

4.2.3.3. Is Rural-Urban a Continuum or a Nexus?

In the context of India, where the rural and the urban interpenetrate socially, politically, culturally, economically and ecologically, and the rural-urban change is not smooth or uniform but lumpy and uneven, a rural-urban nexus is more explicative of the dynamism and interdependencies, than a rural-urban continuum. This nexus allows transcending one-way influence of urban on rural (construction style, bikes and scooters, mobile phones etc). It permits seeing rural as an active participant in effecting such influences, and also acknowledges

the influence of rural on urban. The integration of rural and urban, on bases of both culture and function, has been ruralising the urban and urbanising the rural in India (Kumar, 2016; Guin, 2018).

This study could not adopt the continuum to explain the phenomena observed at the research site. The chief shortcoming of the continuum is that while it makes room for varying degrees of urban influence on the rural (Dadashpoor & Ahani, 2019), it doesn't furnish a vocabulary to convey rural influence on the urban. The rural-urban continuum is understood as a slide like concept, that explains co-existing rural and urban features of space, like interlinking settlement pattern, economic and transport system, livelihood etc. (Mohammed et al., 2014). Urbanising landscapes are imagined as a dynamic continuum with a spectrum of metropolises at one end, small and semi-urban centres in the middle, and a village at the other end (Berdegué et al., 2015).

The rural-urban density continuum assumes that population size increases from rural end of the continuum to the urban end, and that urban is an area which has a relatively large, dense and permanent population. Patterns emerging in the rural-urban migration statistics of 2011 census in India however question this premise. Maximum number of migrations took place in the rural-rural migration category. Rural-rural migrations was 47.4%, rural to urban migration was 22.1%, and urban to rural area migration was 7.9% (Mishra, 2017; Ministry of Housing and Urban Poverty Alleviation, Government of India, 2017). In India therefore rural-urban density continuum cannot explain the rural-urban changes underway because population is not moving from rural to urban in a significant way. Moreover, scholarship from more than half a century ago (Dewey, 1960) has established that many cultural phenomena counted as proofs of urban life, such as extent of family size, income, formal education, heterogenous workforce etc. may unfold quite independently of the increase in population size or density.

Spatial or physical rural-urban continuum assumes urban as a centre and urbanism a function of the distance from such centre – the further away from centre the less urban (Rajagopalan, 1961). In other words, it posits socio-economic conditions of a space as can be studied as corresponding to their distance from an urban centre (Kundu et al., 2002). This despite studies (Uzzell, 1979) tackling the problem that distance of a settlement from an urban centre is misunderstood as causing cultural variations, i.e., behaviours and ways of being. In India, it is not uncommon to see the so-called rural culture playing out in the middle of the urban centre or an urban behaviour exhibited in the society of a rural centre. In Haldwani, for example, it is not uncommon to see rural features such as stallfed livestock within the compound of a house which once stood in a village, but that has now come to count within the municipal boundary of the city. That said, physical distance from the urban core and population size persist as the implicit bases for imagining the rural-urban continuum (Ward & Shackleton, 2016).

4.3. Rurban Water Governance

A rurban space is seen as disadvantaged because of 'institutional fragmentation' (Friedberg, 2001; Simon et al., 2003; Moffat & Finnis 2005; Torres & Costa 2007; Allen et al., 2006, p. 335; Halkatti et al., 2003; Dupont, 2005; Hofmann, 2005; Storey, 2003), and an institutional void (Ren, 2021) or vacuum (Kurian, 2010). Rurban communities and residents are portrayed as mere recipients due to the absence of legal regulations. Absence of state, however, does not translate to a missing governance (Mathur, 2008). Mehta et al. (2014) note that policy makers tend to see rurban spaces as only temporary, thus relegating them to political marginality. When formal policies are implemented with such an approach they react with the existing practices and norms often creating complex and ambiguous institutions where the old and the new overlap (Kadfak, 2019; Lindquist, 2015, Ananth Pur, 2007). In some settings, such as the South-Indian State of Karnataka, traditional institutions persist despite penetration by new

formal institutions (Ananth Pur & Moore, 2010), in other settings such as in peri-urban Mangaluru, intermediaries like patrons, informal leaders, and local political fixers fill the gap in solving everyday challenges (Kadfak, 2019).

Such piecing, blending, and layering of different institutions allows them to endure, despite changes over time, as explained by the concept of institutional bricolage (Cleaver, 2012). The resultant arrangements are intersecting and multi-faceted, charged with diverse sets of interest and meanings. Knowingly or unknowingly actors wield prevailing modes of doing things such as norms, ways of thinking and reasoning, and social relationships to stitch together new institutions that may respond to changing circumstances, usually at the interface of individual agency and structures of power (Gutu et al., 2014).

The institutionally hybrid space that is rurban features too a hybridity of problems. Varying uses and changing demands because of demographic shifts, expanding built environment, changing occupational patterns in rurban spaces bring its water resources under threat (Gomes, 2021). Water competition in rurban areas is liable to become worse as rural-urban interaction intensifies, even with redoubled efforts at improving water supply (Domènech et al., 2013). Gaps in rurban water governance coupled with competing demand of water and its ever-increasing exploitation, make rurban spaces prone to conflict. Problems of the state i.e., policy gaps, conflicts and contestations between rural and urban arrangements by the state, mix with local embedded problems of who manages, governs, and uses water, who may assert rights over it, and who controls it. Due to relatively weak public water provisioning, locals in rurban areas rely upon traditional water sources, arranging private provision, experimenting with new technology, among other ways of finding alternate solutions to meet their water needs. Thus, rurban governance processes are more pronounced in the non-statutory sphere. For example, Shrestha et al. (2018) in their study of water scarcity in

urban Kathmandu, Nepal, find that urban residents come to depend on water vendors and water entrepreneurs in the absence of a state intervention in over-exploitation of water by powerful actors.

4.4. Formal and Informal Institutions

Broadly, institutions tend to be classified as either formal (statutory or de jure) or informal (non-statutory or de facto). Formal institutions are clearly expressed written rules, regulations, court systems, constitutional laws, and procedures enforced by the state, such as contracts and international agreements (Knight & Sened, 1995). Cleaver (2002) distinguishes between bureaucratic and socially embedded institutions, admitting that the latter too can become formalised over time. Helmke and Levitsky (2004) broaden formal institutions to include not only laws of the state, but also official rules that organisations institute to govern themselves.

Informal institutions are usually unexpressed and unwritten social norms, rules, customs and traditions, value systems and beliefs enforced endogenously (Cousins, 1997). In some cases they are transferred inter-generationally through oral tradition, teaching of tradition or imitation (Pejovich, 1998). In context of natural resources, traditional institutions may maintain and prevent abuse of the resource by human activities (Otsuka & Place, 2002). The role of non-statutory institutions in resource governance is more implicit than explicit, as reflected in routinised everyday practices that surround resources access, appropriation and use (Greif & Kingston, 2011; Ostrom et al., 1994; Waylen, 2014), thus also reflecting the complex local realities.

This sense of formality and informality carries certain connotations. For example, non-statutory institutions are often associated with being chaotic and disorganised (Perry *et al.*, 2007) or being equated with corruption, illicit behaviour and clientelism (Helmke and Levitsky, 2004). Institutions often work in opaque ways (Cleaver & De Koning,

2015); in some cases informal institutions may take precedence over formal institutions in that people rely on them more (Po et al., 2019; Udas et al., 2014; Shrestha et al., 2020; Woodman, 2011; Mehta et al., 1999; Ledeneva & Efendic, 2021). There are also studies that vindicate informal institutions from being seen as unruly (Ananth Pur, 2007). Guha-Khasnobis et al. (2006) show informal sectors can be well organised and it is not an exception to see that they be more organised than the formal ones. Pacheco et al. (2008) resonate with the understanding that communities are perfectly capable of generating structures that self-organise. Informal institutions are found to be more persistent than formal arrangements (Poudel, 2019), especially in a transitioning context (Efendic et al., 2011) such as a rural space.

It is also important to note that in practice the formal-informal divide is not black and white. Formal institutions cannot be simplistically associated with the state; they exist both within and outside the customary and government systems. Similarly, customary norms and rules are not synonymous with informal institutions; in many cases they are recognised and sanctioned by the state. For example, governments consult and seek prior approval while planning a project that concerns the access to the indigenous people's natural resources (Fitzpatrick, 2005). Ho (2014) further makes a case for veering away from the preoccupation with the form of the institution – formal or informal – and shift the focus on the function of the institution which is spatio-temporally defined. Institutions exist for performing a function and the degree to which they are believed to enjoy social support ultimately is a reliable indicator of how well they are able to perform the stipulated function. Credible institutions also reduce the level of perceived conflict (ibid).

In some cases formal and informal institutions interpenetrate to result in working arrangements (Ugyel, 2018; Sekhani et al., 2019; Po et al., 2019; Mbaye & Dinardi, 2019). C.Huang et al. (2020) take the case of Dongguan city in China to show how governmental actors from town

departments and municipal agencies and other formal water-governance institutions, develop interpersonal relationships owing to shared goals, which results in a veritable informal network. This informal water governance network is collaborative, as actors exchange information and may take horizontal collective action to address local water matters.

4.5. Institutions in Natural Resource Governance

Any meaningful assessment of natural resource governance cannot rule out the centrality of institutions and how they shape conceptions and values of people regarding particular resources and their management. (Muller et al., 2017, p.2).

It is increasingly being shown that due to their contextual embeddedness institutions play a vital role in sustainably governing resources. (Lockwood et al., 2010; Rahman et al., 2014; Hartberg et al., 2016; Gavin et al., 2015). This study sees institutions as structures (norms, codes of conduct, everyday practices, rights, rules) that mediate the relationship between people and their environment, without maintaining a clear-cut divide between statutory (formal) and non- statutory (informal), since many institutions are composites of varying degrees of formal and informal elements. Institutionalisation is understood as the routinisation of certain interactions (practices). Practices themselves are understood as routinized behaviour. This study does not use practice theory but uses the concept of practice to direct the methodology and gain a comprehensive understanding of water institutions in a rural space. Practices are emphasised in order to shift the focus from the abstract i.e., what people should be doing or claim that they do, to the real i.e., what action they actually do (Schultz & Boland, 2000; Pickering, 1992; De Koning, 2011).

Water governing institutions structure who will allocate water, how will it be distributed, where and by whom will it be accessed and appropriated, and also the conditions of its use. These structures are

however not straitjackets, especially in an ever-changing space such as rural, practices disappear, evolve and emerge. Bricoleurs respond to changes by, consciously or unconsciously, sewing together pieces borrowed from different institutional logics (Sehring, 2009), which are socially developed structures such as beliefs, values, practices and rules that guide the creation and recreation of individuals' identities (Thornton & Ocasio, 2008). Narain and Singh (2017), for example, in exploring water insecurity in rural Gurugram, show how residents mix technical rationality and local norms (community logic). The former is embodied in piped supply and the latter represented in the belief that only handpump can yield water pure enough for drinking. Despite the convenience afforded by the former, the latter persist, despite strenuous manual labour of hauling water from long distances (to the local handpump).

Radcliffe-Brown (1940, p.9) talks of institutions 'in the sense of standardised modes of behaviour, (that) constitute the machinery by which a social structure, a network of social relations, maintains its existence and its continuity'. Focusing on the regularising function of institutions are the scholars who see them as 'rules of the game' (Lowndes, 2002). This maintenance of social, economic, and political structure, according to North (1991) is brought about through constraints that are either informal, such as taboos, traditions, sanctions, customs etc., or formal such as property rights and constitutional laws etc. Institutions have since been conceptualised to account for not only constraining but also enabling mechanisms, that give choices, ways to use power and to accrue benefits (Muller et al., 2017).

The various interpretations of institutions result from a wide body of literature originating in wide-ranging disciplines like, sociology (Giddens, 1984; Dobbin, 1994; DiMaggio & Powell, 1983; Meyer & Rowan 1977), development studies (Meagher, 2007; Forsyth & Johnson, 2014), anthropology (De Sardan, 2013; 2015), political

science (Bratton, 2007; Reno, 2000; March & Olsen, 1989; Azari & Smith, 2012), economics (Williamson, 1994; Acemoglu et al, 2002; Coase, 1937), legal studies (Griffiths, 1986; Merry, 1988), geography (Cleaver, 2001; Kuus, 2020; MacKinnon et al, 2009, MacKinnon 2009) and many others. The appeal of institutional analysis to such a broad spectrum explains its increasing importance in studying diverse local and global development challenges. Such a broad application however questions the theoretical integrity of institutions on grounds of lacking 'scope conditions' (Suddaby, 2010), i.e., the premise of the study that identifies the empirical phenomenon to which the theory can be applied.

Przeworski (2004) muses whether institutions have any causal force by themselves or are they one and the same as the external forces which influence their working. In other words, if the underlying power relations, beliefs, norms, and social decisions and interactions are what influence institutions, and institutions are not stable but changing then how are the two (external factors and institutions) different. Farrell (2018) responds with an explanation of why institutions can't be reduced to the external factors that influence them. He posits that as individuals interact with one another their understanding of the institution is subject to varying interpretation and application, thus creating a change in institution itself which no longer remains a sum of its parts.

Often the two terms, institutions and organisations, are used interchangeably. It is therefore important to distinguish one from the other. Organisations are groups of individuals with a common goal and purpose, while institutions are the undergirding rules, norms, and codes of conduct that guide the working of the organization (Fabricius, 2004; Leach et al., 1999; North, 1990). Organisations are thus collective actors whose behaviour is enabled or constrained by the governing institutions. For example, a Water User Association (WUA) is an organization made up of members with a certain objective. The

regulations and rules surrounding decision-making in the WUA form an institution. Organisations necessarily work within institutional frameworks (Narain, 2018), and like institutions they need legitimacy in society (Scott, 2001) that cannot be ensured by simply possessing information, technical and material resources (De Koning, 2011).

The understanding of institutions is highly contextual and in that it represents the social organisation of the context which is being studied. For example, in the context of natural resource the reference is to how practices, rules, reciprocity, social relations 'shape access to' and appropriation of resources, thus explaining the interaction between humans and nature (Agrawal, 1999; Cousins, 1997). How one defines institutions depends on the school of thought one subscribes to. Most definitions accede however that institutions are such structures that can be expected to impact the way individuals, or a group of individuals behave.

The dominant perspective for studying natural resource governance in the last few decades of the twentieth century was new institutionalism, commonly referred to as the 'design school'. It's underlying belief was that with the correct incentive to the actors an institution can be designed to yield desired outcomes (i.e., policy coordination) to operational problems. Recently, veering away from the 'outcome oriented' and 'efficiency fostering' view of new institutionalism, post-institutionalist thought argues that desirable outcomes cannot be ensured by merely changing or optimising incentives, because institutions have social and political dynamics that complicate them.

According to Meinzen-Dick (2007), institutions for water governance namely public institutions, collective (farmer) action institutions, and water markets should not be applied without appropriate adaptation to the context, and synergy among them should also be explored for applying a combination rather than an isolated solution. Furthermore, employing a grounded approach, Pierson (2000) explained, it is the

appropriateness over effectiveness of an institution that influences actors to contribute. Reason being resource managing institutions do not operate in a vacuum. Actors have social and political identity, their perception of the world, decision making logic and actions are influenced by it (Cleaver, 2002; Robbins 2000). The context in which it is embedded influences the functioning and outcome of the institution (Meinzen-Dick & Pradhan 2001; Kant & Berry 2005), and this interaction between the context and the institution is a back-and-forth process.

The new institutionalists hailed community management of natural resources as the panacea for good governance. Community, however, was understood as adhering to static ways of resource governance (Cleveringa et al., 2009) wherein gaps could be identified and filled through formal mechanisms (Sturgeon & Sikor, 2014). This despite proof to the contrary that very often with passage of time institutions perform inconsistently and are contingent on changing conditions (Smith et al., 2001). Moreover, equal participation of the entire community cannot be ensured (Cleaver, 2012; Shunglu et al., 2022). When it is artificially arranged that disadvantaged groups exercise a say in the decision-making of the intended participatory institution, the outcomes do not necessarily align with the intention (Cleaver and Hamada, 2010; Zwarteveen and Bennett, 2005). The focus on participatory and local institutions also assumes that institutions can be designed to serve policy goals. There is a need for moving away from designing community-based management of water in the developing south, towards reliance on complex and roomier institutions that involve a wider variety of actors (Jones, 2015; Lockwood & Smits, 2011).

The idea of defining jurisdictional boundaries to bring about effective collective action in resource management (Ostrom, 1990) assumes that resources and actors' relationships to those resources can be controlled or streamlined. In practice, however, the everyday

governance defies jurisdictional and administrative limits (such as that of rural and urban), by virtue of being a dynamic and complex interaction, at different scales, of the ever-changing human society with an ever-changing natural environment (Bodin & Crona, 2009; Cleaver & Franks, 2005; Berkes et al., 2003).

4.6. Institutional Bricolage

This research chooses institutional bricolage lens to make sense of rural water governance because it provides vocabulary for the rapidly changing rural and corresponding changes in its water governance. Institutional bricolage being, '...a continuing process that changes all the time as a result of different and new external influences, insights, relationships, and more' (De Koning, 2011, p.214), helps to understand how institutions - practices, rules, norms, beliefs, code of conduct - evolve and emerge in an ever-changing rural context. In addition to concerning itself with micro processes, institutional bricolage also accounts for an interface of distinct scales, i.e., what happens at the local, District, State (Province), National and international level in water governance. Thus, providing both, deepening and widening focus.

Cleaver (2005; 2012) proposes critical institutionalism to overcome gaps in mainstream institutionalist theory, such as failure to admit individual agency, social and historical roots of institutions, complexity of communities and their local differences based on power and politics, and the messy interaction of formal and informal institutions. As the basis for adopting the term critical institutionalism, Cleaver and De Koning (2015, p.3) tender the divide between the 'real' and the 'observed' as explained by critical realism,

the term critical is used to reflect a debt to critical realist thinking which recognises diversity in social phenomena, the potentially creative effects of individual agency and the influence of social

structures in shaping individual behaviour and patterning of outcomes.

Cleaver (2012) defends the label critical institutionalism for the approach borrows from post-structural perspectives, political ecology, and critical social justice.

Cleaver acknowledges the debt to Douglas (1973; 1987), Peters (1994) and Giddens (1984) in conceptualising institutional bricolage. Douglas reasons that it is institutions and not individuals that make the choices for efficient resource management. She borrows the concept of 'intellectual bricolage' put forth by Levi-Strauss and transfers it to social theory. According to her, construction of institutions follows the process of bricolage – 'gathering and applying analogies and styles of thought that are already part of existing institutions' (Cleaver 2001, p.29). Cleaver adapts the ideas of Douglas and Levi-Strauss and uses the term 'institutional bricolage' to explain how mechanisms of allocation, distribution, access, appropriation, and use are built upon existing institutions, thinking styles, and social relationships. While Douglas vests in institutions the capacity to respond to changes, minimising the cognitive effort on part of individuals, Cleaver considers agency of actors as critical in emergence (shaping) and re-emergence (re-shaping) of institutions.

To buttress this argument Cleaver borrows from Giddens (1984) who sees the individual as the bearer of not only agency, but also many social and livelihood identities, thus not only limited by social structure, but also creating social structures by individual actions. Actors, called bricoleurs, are seen as social agents, who analyse the changes and respond to them with creativity. This creativity operates in the socio-cultural context and is bounded by values, routines, norms, and other embedded understandings (De Koning, 2011; Cleaver, 2002). Bricoleurs have authoritative resources, which are aspects of their socio-political position and personal characteristics that makes them

influential in shaping and reshaping institutions e.g., official position, social network, wealth, and knowledge (De Koning, 2011).

Institutions are constructed by bricoleurs (actors) as they wield their agency, power, and knowledge in different ways. Unlike the institutions crafted by the design school that focus on the productive identities of people such as herder, tiller, irrigator and the like, the critical institutionalist view emphasises the complex social identities of bricoleurs. For example, young women, in Sitapur village (research site), enacting their role as daughters-in-law/housewives perform agricultural labour, whilst also working as foragers, supplying fuel wood and fodder needs of the household. In another example, some tea-shop owners supplement their livelihood by performing the role of real estate agents thus mediating land use change. A true picture of resource management cannot emerge without due emphasis on complex social and livelihood identities.

4.6.1. Agency

A more comprehensive discussion of agency allows for grouping it into three types. According to the first, people do not engage with an institution merely in capacity of their roles as specified by the institution, but as agents who assume multifaceted social identities. Complex social lives therefore dictate the extent and course of people's negotiation with the institution (Schnegg & Linke, 2015). Changing contexts foreground different identities of people thus impacting strategy and innovation as they interact with the institution. Moreover, symbolic meaning attached to things, relationships and resource use interferes with how they would be valued based strictly on functionality. Emotions play a significant role in evaluating the course of action in engagement with an institution. Retaining agricultural land despite its low productivity and little to no profit, is an example of emotional attachment to ancestral land.

Course of action is also decided by cosmologies or moral worldviews traditionally held by the people. Indians for example never turn a thirsty person away from their door because it is an opportunity to earn *punya* i.e., merit in the eyes of God. The interplay of this eco-cosmological belief with the reality of water insecurity often results in rationally inexplicable decisions with respect to resource (potable water) use. Morality thus comes to bear on natural resource use. Consideration of values further nuances the 'understanding (of) agency and replaces the more economically reductive concept of 'costs and benefits' used by Ostrom and others...' (Whaley, 2018, p.149) in new institutionalism.

Second, power dynamics influence agency. This includes power accompanied with certain political and social positions, power implied in differential access of resources, and expression of power through resistance to or subversion of norms (De Koning, 2014, p. 2005). Agrawal (2005) shows that poor people have limited power which is why for resource access they can recourse to fewer institutions. An institution facilitating resource access may beget differential advantages and disadvantages for different individuals or groups based on the power they exercise. Actors who work for statutory institutions also have to negotiate with power in local institutions outside of state structure (Funder and Marani, 2015). Third, agency is nested in routinised practices. The everyday supplies many examples of agency exercised through the habitual. Norms, practices, codes of conduct surrounding resource arrangements feature political, social, and environmental continuities. The thickly layered resource use arrangements carry embedded agency in that they either enable or restrict adaptation and innovation.

Cleaver and De Koning (2015) suggest that infrastructure and technology can also shape how people exercise agency. To illustrate this, they forward the example of concretised irrigation furrows, which by obliterating the option of farmers changing the course of water,

dispense with the need or scope of an institutional arrangement around water use. However, Narain and Singh (2017a, p.69) are of the view that technology cannot be thus treated in isolation:

The socio-technical approach sees technology not as socially neutral, but as socially constructed. They are socially shaped and a reflection of societal values and belief systems; they are constituted and reconstituted by social and power relations. Further, technologies have social effects. They are impacted by and impact social relations. Technology has social requirements for use; all technologies have operational implications.

An example is the water gateworks in peri urban Gurugram, that are seen as the point where mismatch is generated between the actual demand of water and the water released. The gateworks thus become a site of conflict between farmers and irrigation department. The operator of gateworks is often accosted and sometimes thrown in the canal when the conflict gets heated.

Most bricolage occurs at the meso level of institutions (Peters et al. 2012), where implicit and explicit rules of interaction remain in a process of becoming, deconstruction, and reassembling (Dessein, 2021). Berkes (1989) and Long (2001) advance various interfaces within institutions (meso level) which provide fertile ground for bricolage. Such interfaces are between state, individuals and communities, between differing values, logics, and world views. The differing scales of distinct institutions (village council, district administration, state forest department) also provide interfaces. Institutional bricolage smoothens the incongruities between what is concretised (what is decided) and what gets materialised (what actually happens). Marin and Bjørklund (2015), Funder and Marani (2015) and Jones (2015) are of the view that this smoothing is attained through melding of differing logics, knowledge systems, sets of values, through exercise of agency, imposition of authoritative power, and generation of everyday governance.

4.6.2. Institutional Bricolage Processes: aggregation, alteration, and articulation

Institutional bricolage may occur internally as one or more socially embedded institutions interact through leakage of meaning or as a response to an externally introduced bureaucratic institution. Based on the elements of institutional bricolage, De Koning and Cleaver (2012) determine three practices that play out in a context when a new bureaucratic (statutory) institution is introduced: aggregation, alteration, and articulation. Before learning about these processes, it's important to register that these processes are not the pre-requisite for institutional bricolage. In the same vein it is not necessary for them to occur all at the same time. The processes can occur independently and should be seen as distinct. Moreover, they are highly context specific and may play out differently in different contexts (See De Koning, 2011, pp 32-34 and 213-214).

The first process describes a situation where the new institution dissolves within the existing institutional landscape; it becomes naturalised through recombination with embedded institutions such as norms, routines, and traditions (Marston, 2014). Frick-Trzebitzky (2017), in their study of government mechanisms for flood prevention in the Densu Delta in Greater Accra, Ghana, show the bricolage practice of aggregation: private organisations, NGOs, neighbourhood associations, and customary legal systems are shown to be part of the slow and conflict-ridden path to the adaptation of NADMO's (National Disaster Management Organisations) action plan. Authoritative processes are tempered by the multiple existing institutions for flood prevention, resulting in locally applicable hybrid institutions.

Alteration is when the new institution jostles with the existing practices until the latter adapt to it either through minor tweaks or major reinterpretation. Such improvisation serves to make the new institution

more socially applicable. In the case of Lilongwe in Malawi, Rusca et al. (2015) demonstrate the processes of institutional bricolage shaping the bureaucratic institution of the Water User Associations. Despite its written set of rules and a hierarchical structure to guide its staff, until the WUAs acquired the support of traditional chiefs they faced problems in implementation (vandalism, embezzlement of water fees by local politicians etc.). In explicitly partnering with traditional chiefs however the WUAs ended up perpetuating and bolstering the existing power structures of the society by way of privileges such as appointment at key posts within the association, financial benefits etc. The WUA was however a success inasmuch as water could be provided to the targeted communities. This example shows the influence of power relations as a new institution is altered to make it socially applicable within a context.

The practice of articulation is seen when the existing local institutions resist the incoming institution because it challenges local identities and local culture. A discord prevails between the new and the old institutions. Komakech et al. (2012) for example show the highly contested state-led water reforms in Tanzania, that guided infrastructural interventions in the Hingilili sub-catchment. The furrows (irrigation canals) used for centuries by the highland and lowland farmers were rehabilitated by the government, lined, and furnished with lockable intakes. Intakes built on the highland furrows were prone to silting and blocked water flow to the lowland farmers owing to poor design. This led to violent conflicts and to date the organisation made for conflict resolution largely relies on firefighting since there is no permanent resolution to the water scarcity that the rehabilitation of furrows created for the lowland farmers. The existing institutions are thus beset with strife.

When there is no impasse, new arrangements evolve, that are accompanied by leakage of meaning; meaning is leaked from an existing institution to the new institution in form of discourses,

symbols, and power relations (De Koning and Cleaver, 2012). Earlier, Douglas (1987) had stated that often institutions are connected to other institutions metaphorically, and in case of formal similarity between two institutions meaning can be transferred from one to the other. An example of leaked meaning through symbol is seen in Friman's (2020) study of bricolage processes in the gendered woodcutting in the two villages of Boesssen and Tonogo in Burkina Faso. When going to the bush carrying a traditional axe called *large* they are seldom stopped by the patrolling forest guard because carrying a *lalgo* symbolises women's intention to only cut legal, dead wood, and not illegal green wood. The new institution if not fully rejected, is only accepted in parts, and more than one institution exists to control a resource (Cleaver, 2002; Von Benda-Beckmann & Kirsch, 1999). This co-existence of multiple arrangements often drawing sanctity from different authorities, and operating on different scales and levels of complexity, is called institutional plurality.

4.6.3. Everyday Rurban Governance: Institutional Plurality

The implicit nature of resource governance mechanisms in rurban spaces has often been mistaken for a governance lacuna by an observer (Ren, 2021; Kurian, 2010). Increasingly, however, scholarship around natural resource governance in the developing south is taking an expanded view of governance to include, the everyday interactions and informal decision-making, beside the formal, bureaucratised and professionalised institutions (Cleaver, 2015; Bisoka et al., 2020; De Herdt & De Sardan, 2015; Abubakari et al., 2020; Zenker & Hoehne, 2018). From a plural lens therefore, resources such as water and land are governed through interaction of multiple stakeholders and a variety of configurations of customary and legal procedures, rules, norms, and laws (Merry, 2007). Plasticity of these overlapping governance mechanisms can be explained by the processes of institutional bricolage. Institutional bricolage also gives a suitable lens for examining how, in a rurban space, existing norms,

codes of conduct and rules are included in and excluded from within statutory institutions to form hybrid institutions.

Taking stock of how individuals and communities experience access to resources, Meinzen-Dick & Pradhan (2002) list a host of different kinds of laws that may exist in a social field, namely: state law, customary law, religious law, project law (regulations pertaining specific projects, e.g., an irrigation project), laws made by user groups, and a host of local norms. Law is understood broadly as a normative order. There could be two or more institutions, deriving legitimacy from distinct sources, and for the same set of activity (Von Benda-Beckmann, 1988; 1989). For instance, for a given activity, a statutory institution may be sanctioned by the state, whereas a non-statutory institution may hold religious, cultural or social sanctity.

From natural resource governance perspective, this plurality of legality (or legal pluralism) has helped shape better understanding of rights and entitlements. For instance, in a community managed irrigation system, there are no state defined rights, the users devise their own rules and rights - legitimised by the community - to access and appropriate the resource. This structures the user-user relationship and user-resource relationship. As for entitlements, in cases where the rights, rules and norms are devised by the state, but are based on social relations, individuals may access or appropriate more than the share allotted to them, this is called 'extended' entitlement. For example, Narain (2003) explains about the time-sharing arrangement under the warabandi irrigation system in North-western India. Irrigators exchanged time allotted to them despite the prohibition on doing so. Narain notes, such transactions were based on '*bhaichara*' (brotherhood). The rights were defined by the state but realised on the basis of a distinct normative system. Gerbrandy and Hoogendaam (1996) study this as the concept of 'concretisation' and 'materialisation'. Where concretisation explains, how the rules and norms are defined by statutory institutions around resource access and

appropriation; materialisation explains how the rights materialise through non-statutory institutions (basically, through other normative systems).

The challenge in policy making for the governance and management of natural resource lies in recognising and acknowledging the pre-existing practices and norms around the activity being addressed. Instituting statutory rules and norms where non-statutory institutions pre-exist would either recoil or have implications that lead to re-defining the rights surrounding resource access and appropriation or might leave the statutory institution futile (Pacheco et al., 2008). In many cases a dilution of statutory institution is noted upon coming in contact with a non-statutory institution. For instance, in Sitapur village, timber is largely procured extra-legally through a nexus of forest guards and village residents (popularly referred to as timber mafia) to circumvent the statutory process that is considered tiresome and infested with red tape. One may say this is a case of corruption, which is true, but corruption too can be seen as a case of legal pluralism (Nuijten & Anders, 2007), a normalised practice that exists alongside the state's system (Gizem & Georgy, 2019; Darden, 2002; Böröcz, 2000; Arellano-Gault, 2018). It draws legitimacy from the society and is justified under different names, for example, gift, cooperation or help (Znoj, 2007) or as a compensation for perverse incentives (Narain, 2003). In this case, the locals claim they have customary rights over these forests, whereas the state laws restrict felling of trees. It is thus important to understand that the tensions among multiple regulatory orders may result in a situation of tension, conflict of interest or conflict over natural resource access and appropriation (articulation), or a hybridisation of state sanctioned rights such that they co-exist with customary rights (aggregation and alteration).

Furthermore, institutional plurality around the use of a single resource disrupts the assumption that there is an absence of property rights or poor governance, both of which are grounds for the good governance

narrative. The state is perceived as an honest custodian of community's resources, one who better knows, for what and how the resources are to be used, managed, and allotted (De Sardan, 2015). This skates over the claims laid by locals on these resources, which may give meaning to specific social domains or to an entire social universe. Cleaver et al. (2013) instead harken to 'real' governance of Hagman and Peclard (2010), focusing on plurality of resource governing arrangements characterised by the de facto governance enacted by everyday contestations, negotiations, and solutions. This is not to imply that non-statutory institutions are necessarily just and equitable. The analytical framework or concept of legal pluralism, however, sensitises about the practices, customs, beliefs, norms and rules outside of the statutory system and the critical role they play in the everyday lives of the people. It advances a framework to analyse the relationship of state law, public policy and non-statutory institutions. This approach deems power and social relations as crucial to understand why some rules are held by the locals as more legitimate than others (Bisoka et al., 2020); focusing on the game of the rules rather than the rules of the game.

4.6.4. Social and Power Relations

This study, due to the decentred focus inherent in critical institutional analysis cannot definitively place power and politics at its centre. Cleaver (2012) urges to look beyond the visible workings of power to trace its flow in the plurality of actors, everyday practices, and institutions. Power can be studied in how people relate with each other, how they see the world and their place in it, and how they participate or not in contouring institutional arrangements for resource access. 'Institutions are also authoritative arrangements, so tracking the ways in which power is visibly and invisibly channelled through them is a key challenge' (De Koning & Cleaver, 2012, p. 280). Moreover, the multiplicity of institutions governing a resource (water) and the multifarious everyday interactions beyond those institutions that impact them, nevertheless, makes bounding and containing

institutional analysis difficult. Though institutional bricolage acknowledges power inequality it does not set out to solve it (Cleaver, 2002). From a critical institutionalist perspective 'the working of power and the patterning of inequality means that some people are more able to shape collective rule making and benefit from outcomes than others' De Koning and Cleaver (2012, p.279).

The quality and quantity of underpinning social interaction and institutions in the society are believed to be shaped by social capital (Narain, 2021; Narain et al., 2019). Instead of seeing social relations narrowly as comprising of only those relations that individuals capitalise on for attaining economic and political ends, this study considers all interactions among various actors at the interface of different scales, normative orders, and resource boundaries, that in turn have a bearing on how resources are governed. Daily interactions that animate local social life are shown by Cleaver (2002) to play a significant role in improvising new institutional arrangements for resource governance, thus influencing the process of institutional bricolage.

Social relations also explain the how actions of certain state actors, whose ostensible accountability is to the respective statutory institution, are yet enmeshed in social networks by virtue of the actors' hailing from the local community. Kairu et al. (2018) nuance the study of social relations as prescribed in institutional bricolage by adding the concept of accountability to it, in their research about the role of meso-level state actors in filling the implementation gap in participatory forest management in Kenya. These meso-level state actors have dual responsibility of enforcing bureaucratic rules of the forest department, while simultaneously ensuring that the community may continue its forest activities. The obligation to help the community, a result of the actors being embedded in it, is called vicinal accountability (Blundo, 2015). They balanced these diverse accountabilities through the institutional bricolage process of alteration; their decision-making

reflected use of agency to fulfil bureaucratic obligation e.g., patrolling, arresting trespassers, and carrying out scheduled forest-based activities, while still creatively finding bureaucratic solutions to enabling community members to gain forest access, mobilising social relations outside of their official circle with private companies to fulfil deficiency in official budget.

This study sees social capital as those social relations that help individuals in their everyday interactions with other actors within a resource governing context. The concept of social relations when transposed in study of rural spaces helps us understand: How do some people have better access to resources over others? How does the community cope with difficult times? How networks mediate migration? In other words, helps us understand rural-urban flows and changing livelihood strategies; resources access and use. From a grounded perspective, preferential access or exclusion can be understood by how rights materialise through social relations.⁶⁹

Despite its nomenclature, social 'capital' can be created and sustained outside of concern for economic ends. The nomenclature could be said to contribute to the appeal of social capital as satisfying development agencies' search for yet another productive asset that may be mobilised for economic development ends (Cleaver, 2005). Bebbington (2004) more tellingly reveals that many social-capital research projects funded by the World Bank were merely framed in the language of the call for proposal and did not produce any serious engagement with the theoretical problems related with the concept.

Cleaver (2001) also holds that new institutionalism and SRL (Sustainable Rural Livelihoods) literature treat social capital as something that can be rationally drawn at will from the 'resource bank' of culture and social structure for optimal management of resource,

⁶⁹ See also, Gerbrandt and Hoogendaam (1996)

whereas it actually unfolds in everyday interactions and 'networks of reciprocity'. Social capital is not a resource in the way monetary wealth is; something that accrues in a bank account, growing just by the virtue of passage of time, and depleting when expended. There is no resource bank per se where social capital can be accumulated, having no role in the everyday life, only to be drawn upon in time of need. One's social capital is ever present, impressing upon all of life's possibilities, in this case water access.

This study finds Bebbington's (2002) conceptualisation of social capital most relevant for its research context, to understand the resource access and use, changes in livelihoods, and rural-urban migration in rural Haldwani. Describing it succinctly, Bebbington (2002, p. 801) says,

social capital is a "mesolevel" concept that can be usefully linked to other bodies of theory in order to ground them better by focusing our attention on actors and their networks, the ways in which networks structure patterns of inclusion and exclusion, and the ways in which the mobilization of these networks helps explain change in access to resources and relations of power.

Moreover, in natural resource governance there is need to look beyond the physical availability of the resources (Pandey et al., 2019). Mearns (1995) describes the case of wood fuel crisis in east Africa where the issue was not of physical availability of the resources but the denial of access to planted trees to women whose household duty it was to collect fuel wood. For finite resources, like water, there is more to understand in terms of struggles and negotiations to access and appropriate the resource (Mehta et al., 2007) such as the practices, norms and codes of conduct that shape access to resources, like gender relations and property rights (Agrawal, 1999; Joshi, 2005; Mehta, 2005). This study therefore sees gender relations as an institution, because the arrangements around water access and use cannot be divorced from gender relations.

Since it is the women's duty to fetch water, gender relations while not being central to this research become an integral part of it, because they shape access to water in rural spaces. In spaces undergoing rural-urban changes, women are exercising agency to 'construct a new human-environment relationship that looks considerably different from what once shaped the lives of their elders' (Mehta et al., 2021, p.42). In Sitapur village, women of older generation recall worrying about the rain, the crop in the field, and the wellbeing of the forest because their everyday comprised of lived engagement with the natural environment. Concerns of women of the younger generation include education and employment (in urban centres), and other opportunities to better their lives. This involves a move away from agricultural activity and processes through which their elders (women) used to engage with the local natural environment on a daily basis. Joshi (2014, p.38) corroborates that the only rural women 'who cherished every opportunity of getting out of the home, including fetching the heaviest pots of water, were young married women ... whose social status as young brides equated to being glorified slaves in their husbands' homes'. Transforming gender relations in the rural are reflective of broader changes in types of migration, livelihood patterns, land-use, and resource(water) access and use.

4.7. Conclusion

This chapter takes the existing peri-urban literature as a point of departure to further develop the concept of rural in the Indian small-city context. It engages critically with relevant strands of rural and urban scholarship to justify adopting a historical sensitivity in studying rural-urban change in small cities. A 'regionally embedded understanding' is the way forward to address the existing and emerging rural-urban challenges in the developing context. This exploration of the socio-spatial dovetails with the theoretical contribution of this study, which is to move beyond the visible

transformation of the rurban form, uncovering the thickly veiled processes that interact among each other to continually make and remake the rurban. The chapter also revisits criticism levelled at the state classification of rural and urban, and the very dichotomy. The censal criteria which takes population size and density, as well as working male population outside of agriculture as indicative of urban, fails to capture the nuance of rural-urban change on ground.

The concept of rurban is thrashed out and defended in the chapter. Rurban is found to contravene the rural-urban continuum by exhibiting multidimensional and uneven rural-urban change, that can have as many permutations of configurations as there can be socio-temporal contexts. The discussion also unmoors rurban from the physical perimeter of the city. As an entry point for studying rurban, the ongoing improvisation fueled by broader socio-economic and environmental changes is privileged over rurbanism or rurban way of life. The latter's ubiquity does not allow for specificity to emerge, painting all rurban in the same colour, providing no deeper understanding of the rurban at hand. Finally, a case is made for pluriform governance exhibited by rurban areas. through the transverse interaction among the multiple institutions.

To contend with the complexity of water governance in a space that is in a state of flux (rurban), institutions are conceptualised as ongoing reiterations of arrangements for resource use. The dichotomy of formal and informal institutions is explored in depth to arrive at the understanding that neither is universally dominant over the other; the long standing, embedded, de facto institutions variously complement, substitute, and interact with the state coded, de jure, formal institutions. The multi-mechanismicity of water governing institutions in a rurban space is studied through a critical institutionalist perspective, using the concept of institutional bricolage.

The multi-dimensional processes of institutional bricolage through which institutions emerge defy the assumption that actors organise themselves based on the rational concern of efficient resource use (Whaley, 2018). Institutions are shown to include multiple founts of agency that is exercised by the actors, uneven distribution of power, highly complicated social and political relations, and persistence of socio-historical trajectories of resource use. It allows also to question if institutions can be designed exogenously and imposed onto a context. Institutional plurality also serves as an entry point to gauge the reach of designing institutions and the level to which institutional bricolage can be induced and managed. Existence of multiple legalities also provide a way to understand the gaps in the intention and effectiveness of resource management institutions. The outcomes of institutional bricolage processes are unpredictable, making it challenging to contrive parameters of success (efficiency).

The substrate of institutions are the dynamic social relations that animate the everyday interactions around resource use. Social relations may or may not create opportunities for individuals and groups to better access a natural resource. This accruing of opportunities stemming from social relations has been studied as social capital. Benefits accrued to individuals and groups through social capital, in the remit of this study, have been understood through social and power relations, their formation, development, maintenance, transformation, and resilience.

Chapter 5 Processes of Rurbanisation

5.1. Introduction

This chapter presents the empirical data for how rurban spaces are produced through multi scalar processes and through connections that blur the separation between urban and rural contexts (Watson, 2014). The small city of Haldwani and the selected rurban area (Sitapur village) is connected physically through water flows; economically through consumption patterns and income flows, flows of raw materials, goods, service delivery; and socially through movement of population as well as cultural similitude. Since these flows are context-dependent, a processual analysis is undertaken to explain rurbanisation. Process serves as an analytical tool of causal explanation that 'undergirds epistemologies that center dynamic and contingent relations and signal openness of outcome' (Strauss, 2019, p. 257). Resulting from interdependent rural and urban flows, the future of rurban is not necessarily urban. To reiterate, this study identifies rurban not primarily as a configuration but as a process. Rurban is seen through the dynamic processes that lead to its creation, not as a state of being, or a way of life; as rurbanisation and not as rurbanism.

This chapter delineates three processes of rurbanisation that are anchored in the everyday and are multidimensional, namely Migratory Flows, Land-Use Change, and Changing Occupational Pattern. These three processes are germane to the intersecting flows of people, ideas, money, and water in Sitapur village. They influence how water moves in the physical space, and how it is used and accessed. Excessive construction accompanying land-use change on mountain slopes negatively impacts spring recharge, and consequently water availability in Sitapur village. Water flows in rurban areas manifest through a mix of rural and urban practices. Increasing population of in-

migrants bring water use patterns (e.g., hi-tech toilets) that intensify the water demand, creating competing uses for the finite water resources. Since the use of lake-water changed from domestic to commercial, large number of locals are getting absorbed in the tourism industry. With the out-migration of locals, moreover, traditional knowledge about maintenance of forests and springs is in short supply, impacting their fitness. To understand how water governing institutions emerge and evolve in a rurban space (taken up in the next chapter) it becomes imperative to understand what rurban is and how does it unfold, the possible causes, and various outcomes of this process.

The three processes of migratory flows, land-use change, and changing occupational pattern are overlapping. None of these processes is necessarily dominant in bringing about rurbanisation. In the case of Sitapur village, land-use change itself is not primarily driven from familiar causes such as mega infrastructure projects, integration within international value chains, or other manifestations of neo liberalisation, the spread of which is often accepted as the starting point of rurbanisation trend (Gururani & Kennedy, 2021; Upadhyya & Rathod, 2021; Rathi, 2021; Sood, 2021; Xie, 2021; Ren, 2021). Migratory flows have reinforced other processes of rurbanisation, namely land-use change and changing occupational pattern. Agricultural land is increasingly being converted into residential and commercial land, supporting summer homes, hotels and resorts, and off late ready-to-move-in cottages. Consistent with the 'amenity property boom' in rural areas (McCarthy's, 2008), locals in Sitapur are selling their agricultural land. Migration is therefore also rescripting the livelihood portfolio of locals, who are moving from land-based activities⁷⁰ to tourism-based occupations. A situated study such as this partakes in the hope that a wider range of rurban experiences may come to inform rurban theory.

⁷⁰ To appreciate the various livelihoods stemming from land we move beyond seeing it solely as a site of cultivation. A useful understanding of land-based activities, spelled out by Shackleton et al. (2001) includes the inter-dependence and interconnectedness of cultivation (vegetables, fruits, and crops), animal husbandry, and gathering NTFP (non-timber forest produce) both for self-consumption and for sale. The role of rurbanisation processes in shaping and reshaping of institutional arrangements governing land-based livelihood activities (cultivation, animal husbandry, and forest activities) remains underexplored (Shackleton et al., 2020; Hovorka, 2005).

A disclaimer is in order about how climate change is treated in this study. Many recent studies highlight the interrelationship of climate change and rurbanisation (Roth et al., 2019; Ravetz, 2020; Winter & Karvonen, 2022). While climate change impacts rurbanisation in Sitapur, it is not the lens through which rurbanisation is studied in this thesis. This chapter treats climate change in a need-to-know manner as and when it is found to intersect with the processes of migration, land-use change, and livelihood changes.

The chapter is laid out as follows: the three overlapping processes that express and define the rurbanisation underway in Sitapur village, Migration, Land-Use Change, and Changing Occupational Pattern, are explored in respective sections that detail their unfolding, possible causes, and various outcomes. The conclusion substantiates through empirics the core problematics of rural-urban fusion defined in the concept of rurban.

5.2. Migratory flows

5.2.1. In-migration

We are based in Ghaziabad⁷¹. My father bought the villa for a relaxed and peaceful life away from the city. He is old now and shuffles between USA and Dodital. Currently he is in the States. We come here to escape the infamous Delhi pollution for a weekend (An interview respondent whose father owns a villa in Sitapur, 2019).

Sitapur is witnessing amenity-based in-migration. This is migration driven by the availability of beautiful landscape, presence of serene water bodies and other aesthetic pleasures (Perlik, 2011; Chipeniuk, 2004; Stewart, 2002; Moss, 2006; Singh, 2006). Lifestyle (Sato, 2001; Benson & O'Reilly, 2009; Janoschka, 2009) and leisure migration (Hall

⁷¹ Ghaziabad is a city in Uttar Pradesh State of India. It borders with New Delhi and is counted in the limits of the National Capital Region (NCR).

et al., 2004) are also commonplace in Sitapur village. The dynamics of such migration in the Himalaya is the subject of an increasing number of studies (Singh et al., 2020; Singh, 2006). The trend of in-migration is so strong that locals, whose homes command a pleasant view, are increasingly turning their homes into homestays, some even building a new room or two for this explicit purpose.

There is a strong desire now to be away from urban chaos, to have unimpinged access to Himalayan views and virginal nature. This demand is met by agricultural land, which in most cases administratively falls under rural areas. That being so, migration inflows are primarily urban to rural in this region. Ironically, where on one hand amenity-led migration has severe environmental impact in Sitapur, on the other in-migrants lobby for 'preserving' nature through conservation groups and social media. Such advocacy for preservation of the aesthetic value and overruling of productive value is a common feature in transition of rural land for amenity migration purposes (Jokisch et al., 2019; Holmes, 2006; Taylor & Hurley, 2016).

Residential mobility (Mantecón & Huete, 2018; O'Reilly, 2007) explains socio-economic changes, as it acknowledges the relative affluence of those in-migrating into rural areas in pursuit of enhanced lifestyle and natural amenities (Jokisch et al., 2019). Socio-spatial transformation due to the demographic shake-up in Sitapur has led to crystallisation of various perceptions around *baharwale* (outsiders) that in turn feed into the process of land-use-change. A local businesswoman who shared her story of selling land (two *nali*⁷²) at seven times the circle rate⁷³, says with much wonder, 'these outsiders have a lot of money.' Outsiders tend to buy land at much higher rate than a local would. There are different reasons, such as ignorance about the local real

⁷² Nali is the local unit of land measurement in the Kumaon region of Uttarakhand State, India.

1 Acre = 20.17 Nali. 1 Hectare = 49.83 Nali

⁷³ Set by the revenue department of the State government, circle rate for a locality is the speculative price, the highest possible price at which commercial property can be legally sold or transferred. In practice however, circle rates are only reference points and transactions take place well beyond the value prescribed in them.

estate market and less wriggle room for negotiation with the local property dealer due to high demand. Over time this has emboldened the locals to set arbitrary prices for their land, in turn strengthening the perception that outsiders have immense wealth. The prevailing sentiment is that no quote is unreasonable and no piece of land undesirable for the outsider. This conclusion is drawn mostly without any knowledge about the buyer or about the purpose of the purchase. The manager of a resort explains 'irrespective of where you are from when a *pahari* refers to your property he'll say this belongs to a *Delhi-wala* (someone who hails from Delhi), must be loaded with black money'.

The term *baharwala* (plural: baharwale), that the locals use for outsiders is a derogatory term. While literally translating to outsider, it means more than just someone who has come from elsewhere. Culturally, the term *baharwala* carries the connotation of 'the other', as in distinct from the self, thus ruling out the possibility of ever being accepted. A *baharwala* even though they have stayed in the context for decades, is yet deemed an outsider. The othering process is replete with dynamic complexities, subtly excluding the *baharwala* from the local life at multiple levels. It is common to hear 'oh, he wouldn't know, he is a *baharwala*', in interactions. Much of embedded knowledge, therefore, of local trails, customs, ethnobotany and so on, is kept out of the reach of the *baharwala*.

A review of the region's history suggests however, that a majority of the present-day population who are referred to as locals in this study, are not hill persons, they are all in-migrants who have trickled in over centuries (Chowfin, 2016). Historically and to date, the outer Himalayan region of Uttarakhand has been characterised by migratory flows (Prateek, 2017; Hoffmann et al., 2019; Mamgain & Reddy 2017; Pande, 2020; Koskimaki, 2017; Pant & Pandey, 2020; Choithani, 2020). The Uttarakhand mountains lay on the trade route (circa 300 BCE) between the ancient kingdoms of *Magadha* and *Gaandhaara* in

the east and west of India respectively (Jakhmola, 2018). Kak (2017, p.16) mentions that

From the Middle Ages there was an influx of high-caste migrants into Kumaon from Gujarat, Karnataka, Maharashtra, Rajasthan, Bengal, Kanyakubj, and Kurukshetra. They came because of disturbed conditions in the plains, war or strife. While the Pants⁷⁴ came from Maharashtra, the Joshis from Gujarat, the Pandeys from Uttar Pradesh, the Bishts, Fartyals, Mathpals, and such others were earlier settlers.

As early as the beginning of the Christian era, *Khashas* and *Shaka* people moved into Uttarakhand from Central Asia (Jakhmola, 2018). From within India the in-migrants have all had different reasons to come here, some were fleeing war or persecution (Kak, 2017), some looking for better climate, others still came for spiritual enlightenment (Talukdar, 2019), and pilgrimage (Singh, 2006). British rulers also instituted summer retreats in Himalayan towns; the most famous of which were Nainital and Mussoorie⁷⁵. The town of Shimla⁷⁶ in the State of Himachal Pradesh was declared the Summer Capital of British India in 1864. Adventure has retained many a westerner in the Himalaya (Douglas, 2020; Allen, 1982/2013). They have also come and settled here through what is called privileged mobility (Croucher, 2012) i.e., relatively privileged people leaving developed countries to seek a high-quality life in less affluent countries. An American manager of a local cafe shares during an interview the reason why she came to Doodital and what attracts the westerners to the Himalaya.

Most westerners are attracted to the slow pace of life here. In the US it's a race, people are going, going, going and I don't know where?! Hurry is not the underlying force here and obviously there

⁷⁴ *Pants, Bishts, Pandeys, Joshis, Fartyals, and Mathpals* are most common Kumaon specific surnames.

⁷⁵ A hill station in the Garhwal division of Uttarakhand, famous as a hub of boarding schools. Since the early 1800s, the town was home to many British officials, including the Surveyor General of India, George Everest. Tourists are attracted to the contiguous town of Landour for colonial architecture, deodar covered slopes, and views of the Himalayan massif.

⁷⁶ Attracting British officials in the early 19th century for its climate, the town was established as their summer capital. Today Shimla is a tourist destination boasting of temples and neo-gothic colonial buildings. It is the capital of the Indian State of Himachal Pradesh.

are a lot of social, political and economic things that play a role in that. Just that vibe of relaxed and slower pace.

In-migration into Kumaon has, for a combination of reasons, steadily increased in the second half of twentieth century: refugee inflow from Pakistan in the aftermath of the war of Indian independence in 1947; regional development in the wake of the Indo-China war of 1962; liberalisation of the Indian economy in 1990; and Uttarakhand's attainment of statehood in 2000 (Mehta et al., 2021; Kak, 2017; Strahorn, 2009). As economic mobility increased among the people, established townships such as Nainital⁷⁷, Ranikhet⁷⁸, and Almora⁷⁹ were the choicest destinations for owning a summer home. After decades of in-migration, by the early 2000s, these centres thronged with *baharwale* who began looking for greener pastures.

There is also a political catalyst for this trend where the older urban townships in the hills are eschewed in favour of smaller settlements. Ever since its separation from Uttar Pradesh, Uttarakhand has paid great attention to connecting small rural settlements with larger urban centres in the State, as well as with other urban centres of the plains (New Delhi, Bareilly, Lucknow, Moradabad to mention a few). This enabled residents of many such cities to see smaller hill settlements as weekend-getaways. The in-flow into them is also encouraged by relatively cheaper property rates compared to the big cities, attracting people from different income slabs.

Kak (2017, p. 34) observes yet another category of in-migrants: 'it is the NGOs and development specialists who make their home around the year.' As this thesis was being written, tourist inflow pattern shifted due to the pandemic. Between the first round of fieldwork in October 2019 and the follow-up round that started in August 2021, I found

⁷⁷ Established in 1841 as a model European lake-town for the residence of British officials, Nainital was capital of Kumaon from 1857 onwards. It is now among the most frequented hillstations, brimming with tourists in all seasons. Nainital is about 23 kms from Sitapur village.

⁷⁸ A hillstation about 56 kms from Sitapur village, Ranikhet is a cantonment town in western Himalaya.

⁷⁹ Established in 1568 by Chand Kings of Kumaon, the hillstation of Almora is in the centre of Kumaon, about 63km north of Sitapur village.

Dodital visibly more crowded. The crowds are being attributed to the perspective shift caused by the pandemic, such as the remote-working culture, willingness to spend more on travel, and travelling to remote areas (India Today, 2020; India Today, 2021; Bhargava & Chandra, 2021). Many more have shifted base from big cities to the hills. An internet provider in Bhimtal reports, 'I installed more than 4000 new broadband connections in villas and cottages within the first three months of the Covid-19 pandemic'.

A consequence of in-migration is demonstration effect⁸⁰, i.e., cultural influence of the behaviours and lifestyle of tourists and in-migrants. It was evident in the economic aspirations of young men (18-25 years), much conversation with whom had transpired during the course of fieldwork. Earnest interest was shown about practical facets of city life, such as income and expenditure. Smartphones passed hands and much fuss made over many an image and video featuring young out-migrants living it up in the city.

5.2.2. Out-migration

Out-migration is used as a veritable livelihood strategy by the locals (Deshingkar and Farrington, 2009). Investment is made in education of potentially remitting children, and young males from most households participate in circular labour migration. One-way rural-urban migration of entire families is less common. Lall et al. (2006) see this migration pattern as the reason why much of early theories on rural-urban migration failed to explain the Indian experience of (r)urbanisation. In and around Sitapur village, migration is not always rural to urban; a bulk of migration in the region is occurring from rural to rural and from one rural to another rural centre, exemplifying a rural-urban nexus.

⁸⁰ Change in behaviour of people upon observing others' behaviour. See Chandrasekhar & Bhaduri, 2005; Fisher, 2004.

Education accounts for 15.21%, as the second highest reason for migration in Uttarakhand (Rural Development and Migration Commission [RDMC], 2019). Investment in education is emerging as a strong trait of the rurban. Education is seen as an enabler by the 'rurbanite', as means for upward social mobility and of transcending the limitations of the rural (Gupta, 2013; Guin, 2018). Rate of growth in literacy of rural areas was twice the rate in urban areas between 1991-2001 (Gupta, 2015). The perception of agriculture as a dispensable skill, if a skill at all, is not exclusive to the well-to-do (Kumar, 2016). The precarious socio-spatial entanglements of rural-urban relationship are revealed in how rural continues to be viewed as a backward area where *gawar (illiterate and uncultured)* live, while the city is perceived as an evolved place, the place of the educated and the successful (ibid). This adulation of the urban is not universal. A middle-aged respondent scoffs⁸¹ at such hankering after urban dreams, 'what do they even do in the city, just wash plates others have eaten in!' The stigma for hospitality jobs (waiting tables, housekeeping, cooking and the like) compels youth to seek work far from their own village, town, and even nearby touristic centres where they may run into acquaintances. There is concern for one's social image when everyone knows everyone else.

An individual's decision of whether or not to migrate hinges on various factors that interact with each other in complex ways: personal temperament and aspiration, family circumstances, expectation of community, environmental, economic, and political factors (Black et al., 2011; Hoffmann et al., 2019). An ex-headman of Sitapur village concurs that most people want their children to study. 'There is nothing in the village' he says. To educate his own in an English-medium school, he sent them to stay with their uncle in the village (a rurbanising one) on the immediate eastern periphery of Haldwani. He

⁸¹ In the Indian context, jobs around cleaning, housekeeping, waiting tables, janitor services and the likes are deemed menial, and are looked down upon by the society.

stays in Sitapur himself however, because he aspires to remain involved in village politics and contest election for the village head.

Employment is a major reason for emigration, the aggregate of which constitutes 50.16% for the whole State and 49.66% for the hills district (Rural Development and Migration Commission [RDMC], 2019). Government jobs and coaching needed to prepare for government exams are perceived as a respectable reason for out-migration, in Sitapur village. Government jobs, especially in the armed forces, are held in high regard. Being thus employed is recognised as a guarantee of social security, health insurance during tenure and a lifelong pension. This aspiration is passed on from generation to generation. This is corroborated in Kak (2017, pp134-136) 'earnest youth in local degree colleges leave for the plains ...to feed the gargantuan civil services'. She mentions that this region was called 'money-order economy' before the advent of electronic banking. The 64th report (2007 – 2008) of the National Sample Survey Organization reveals that a higher percentage (12%) of households receive remittances in the Indian Himalayan region than in the non-Himalayan regions (9%).

Push factors for migration include small and fragmented land parcels, rainfed agriculture, natural calamities, jeopardised irrigation (World Bank, 2013; Sridhar et al., 2010; Zaveri et al., 2020). Climate change jeopardises rainfed agriculture, in turn galvanising out-migration. On being asked about the rainfall, the respondent supplies, 'you cannot depend upon the rains now, they are very random'. Climate change plays a role as incidences of natural disasters reinforces the willingness of locals to out-migrate (Joshi, 2018; Yadav et al., 2018; Wester et al., 2019). Locals' memories are punctuated by earthquakes, cloudbursts, and flash floods. It is not uncommon to hear someone narrate a story from their past, using a certain earthquake to denote time. During fieldwork too there was an extreme climate event in Sitapur village; a depression over the Arabian Sea had resulted in lashing cyclonic rain across Uttarakhand for forty-eight hours, causing destruction of life

and property (Gupta, 2021; Marar, 2021; Bhatt, 2021). One of the key informants who owns a fuel station, had offered me much needed help during the crisis, by letting me charge my electronics at his office. Commenting upon the cloudburst, he said,

Three months of monsoon did not do us any harm, but these two days of non-stop downpour has wreaked havoc! People's homes have flooded, some have been swept off, there are landslides, roads to everywhere are blocked, people and cars are stranded, businesses are shut, and you already know that there is no electricity since the rain began.

Increased built up area and diminishing forest cover in rurbanising Sitapur increases surface run-off of rainwater and the chances of landslides. Locals have limited room to manoeuvre in terms of technology and infrastructure at an individual level. They express disillusionment at the uncertainty and extremity of precipitation pattern, which has rendered agriculture completely unfeasible. Most people therefore seek alternative livelihoods or ways to out-migrate.

Out-migration is mediated through one's social networks and relations (Manchin & Orazbayev, 2018). Social networks help understand that migration is neither exclusively a function of individual agency nor an inevitable result of structure (Choithani et al., 2021). Pradeep, who now works as a caretaker for a lodge, for example, left his village four years ago, along with his brother, when an acquaintance from the village told him about opportunities outside. He first took up a stint in Mukteshwar, then Nainital and later Ramnagar⁸². Another helper at a lodge, in Sitapur village, who hails from Mukteshwar (rurban), shares that he had first sought work in Delhi(urban), but the climate and culture were too alien. He then accepted employment in Sitapur village (rurban). Even though it is far from home, it is yet comparable both in

⁸² There are three gateway cities in the Kumaon division, Tanakpur city in the east (at India-Nepal border) on the banks of river Sharda, Ramnagar in the west, on the bank. Ramnagar is the mart for Kota bhabhar. Presently it is recognised for the cluster of resorts that cater to the tourists coming to visit Jim Corbett National Park, the oldest in India.

terms of climate and culture, making a case for rurban-rurban migration.

Migration, however, is not gender neutral; cultural norms, especially care work for the elderly and children, prevents women from leaving the homestead and travel to urban areas for employment (Tumbe, 2018; Ingram et al., 2014; Choithani, 2020). Though Siddiqui et al. (2019) admit increased migration of women migrating for work opportunities, in Sitapur village women still predominantly migrate due to marriage or other familial exigencies. In-depth enquiries and analysis of gendered dynamics surrounding migration were limited by my positionality as a male researcher. By virtue of having built good rapport with one of my respondents I was able to interview his wife. I gathered three reasons why women out-migrate: First, to stay with a relative and study. Second, when they get married, and third if the whole family was migrating. The impact of gendered migration is that livelihood activities and household duties which were hitherto shared between men and women fall squarely on women's shoulders in rurban households.

5.3. Land-Use Change

A widely accepted key thematic of rurbanisation is the land question, its conversion and contestations (Brook & Purushothaman, 2003; Upadhyay & Rathod, 2021; Rathi, 2021; Sood, 2021; Xie, 2021; Ren, 2021). These and most other rurban studies in India however look at rurbanisation in context of big cities. Kennedy (2007) for example explains the case of infrastructure led growth and re-territorialisation in peri-urban Hyderabad as shaped by IT policies. Land-use change in peri-urban Bengaluru is credited to industrialisation and urban expansion (Kannan et al., 2021). Arabindoo (2009), similarly, organises her study of peri-urban Chennai around the expansion and 'developmental changes' brought about through global processes. Phadke (2013) too, explains the expansion of Mumbai metropolitan

region and its impact on peri-urban areas. Expansion of cities and rapid loss of farmland has been extensively studied in Vietnam (Pham et al.,2015; Nong et al.,2015), India (Narain, 2009; Levien, 2012; Tiwari & Joshi, 2012a, b), China (Lu et al.,200 Webster, 2002; Hsing, 2010), Pakistan (Anwar, 2018), and the Philippines (Webster, 2002).

In Sitapur village however land-use change is occurring primarily in consequence of in-migration. State policy of expanding tourism and enthusiasm of locals to participate in it, is leading to land-use change around the lake(s) in the form of concrete promenades, food kiosks, selfie points, interpretation centre, ticketing office, and library. More importantly, locals in Sitapur are selling their agricultural land consistent with the 'amenity property boom' in rural areas (McCarthy, 2008).

Private *pucca* roads are being laid to connect isolated resorts and cottages. Many of these roads pass through agricultural land or forested wasteland, disrupting the hydrological system of the region (Ranjan & Kumar, 2020; Tiwari & Joshi, 2012a, b; Sen et al. 2019; Das et al. 2021; Haigh et al. 1990). Road construction has also compromised irrigation, which was historically carried out through *guls*⁸³ that channelised stream water. Now however connection of many a stream with the fields has been severed by the criss-crossing roads that continue to be constructed as part of the state's efforts at rural connectivity⁸⁴. In many places this has obfuscated *guls* as they cannot be contrived through tarmac.

⁸³ A traditional Himalayan irrigation system where water is diverted from a rivulet, stream or a river by damming the flows and then directing the water through smaller channels. The fields are at a lower elevation which allows the water to gravitationally flow to the fields. Mostly farmers take turns to irrigate, regulating the flows in the process. They system is steeped in intimate knowledge of the region, perfected over generations.

⁸⁴ Uttarakhand Rural Roads Development Agency (URRDA) implements the Pradhan Mantri Gram Sadak Yojana (PMGSY) scheme of road-construction that was launched in 2000 for reducing rural poverty by connecting hitherto unconnected habitations. The scheme is sponsored 90% by the central Government and 10% by the Uttarakhand State government. The total road length in Uttarakhand in 2019 was ~39,000 kms as compared to ~19,000kms in the year 2000.

Furthermore, continuous habitat fragmentation is occurring as a result of rampant construction of roads, which act as artificial barriers to animal movement (Forman, 2003; Blake et al., 2008; Coffin, 2007; Benitez-Lopez et al., 2010), increasing instances of human-wildlife conflict (Ogra, 2008; Tripathi, 2020; Sati, 2020). The daily movement patterns of wildlife around the watering points (lakes of Dodital) are disrupted, forcing them to take newer and more complex paths (Stamps et al., 1987; McDonald & St. Clair, 2004). It is not now unusual to spot carcass of a wild animal while driving down the winding tarmac roads of Dodital. In consequence of habitat destruction, incidences of crop destruction by wild animals are on the rise. Monkeys have proven to be quite a menace (Sanwal and Pandey, 2018; Jakhmola, 2018), they do not consume the fruit but pluck and damage it. Wild boars plough out the crop, and deer eat it. Villagers find themselves in a quandary as they are prohibited by law (Wildlife Protection act, 1972, of the parliament of India) from causing any harm to the fauna of the region.

Creating almost a new visual culture in Dodital are hundreds of European style cottages, with red or bottle green corrugated tin roofs. Some of these are luxury residences of the affluent in-migrants. The rest are cottage-resorts built to cater to the growing tourist in-flow. Cottages and summer retreats began to emerge in Dodital around 2000. One reason was the newfound spending capacity among people, a result of the liberalisation reforms of 1991. Second reason was establishment of Uttarakhand as a State in 2000, with its own government and tourism department. In Dodital, Bhanu a thirty-year-old food shack owner, corroborates, 'when I was a child, the road to Dodital was *kutchha*⁸⁵, just four boats and no resorts around. The *Kumaon mandal*⁸⁶ tourist guest house was there but wasn't well maintained'.

⁸⁵ Being in a raw, crude state.

⁸⁶ Mandal is an administrative unit, also called a 'division'. Uttarakhand has two mandals: Kumaon and Garhwal.

Most of the resorts and cottages in Dodital belong to the outsiders, as pointed in most of the interviews. I was told that most locals did not have such resources as to build resorts and hotels. For that matter, they never imagined that their land could be deemed valuable. This is so because locals pegged the value of land to its productivity, whereas the in-migrants measured the value by the aesthetic appeal. Outsiders are also buying land speculatively and for investment purposes. 'This has caused a hike in the price of the land. It has nearly tripled in the past 5 years', adds a cottage-owner. A few years ago, agricultural and residential land had different registration prices but now due to the high demand they have same price and same registration cost.

Unfamiliarity with the Himalayan geography makes outsiders the preferred clients for real estate agents. Besides being susceptible to arbitrary pricing, outsiders can be sold just about any kind of land because they are primarily drawn to the scenery. Land is thus marketed and sold by real estate agents, websites and other portals with a focus on the vistas and views. Outsiders are usually unaware of the complex hydrological system of the mountains. For this reason, most houses on top of the mountain or a ridge are owned by the outsiders. There is no water source at the mountain top. Similarly, cottages and resorts built in spots surrounded by pine forests have no source of water. Springs and *naulas* mostly emerge from oak or other broad-leaved forest, whose deep root system keeps the ground water level recharged. Understandably then outsiders' homes feature long-stretching (more than a kilometre in some instances) private pipelines that carry water pumped from distant *naulas* and springs.

Where on one hand most locals ardently hope that sale of their own land parcel may be realised, on the other they suffer in consequence of unfettered land-use change. The above-mentioned pumps at the springs, for example, invite much resistance because such appropriation and indiscriminate use is seen as an assault on the local

practices. Locals have to walk the distance to fetch water, while an outsider can access running water by paying for a motor. Land brokers (who are mostly locals) promise a running water supply to their customers, which obfuscates the source-user relationship. This affects the maintenance of springs and *naulas*. As part of local water management, locals ensure that the *naula* remains clean and that there is no blockage because of landslide or fallen trees. Decaying foliage and breeding insects in the vicinity are removed. The outsiders do not partake in maintenance.

Land-use change because of the inflow of *baharwale* (outsiders) has implications for other aspects of local life and economy. There is increased felling of forests and quarrying of stone (also extracted from forest) to cater to the demand for construction of cottages, resorts, guesthouses and the likes. While residing in the village, I observed a nightly pattern of trucks roaring past my host's home. I learnt that to avoid the public eye, stone and wood are transported to construction sites after dark. Buyers prefer to buy wood from the *mafia* because obtaining it from the legal channel, i.e., with permission of the forest department from the depot at Kathgodam, is a long-winded process. To buy wood locally, from the *mafia*, is cost effective because trucks do not have to be rented for long distances. Though the term has gained currency and is used in popular media, the *mafia* is not a formidable alien entity for the locals (see Singh & Narain, 2019). Hidden in plain sight, *mafia* is simply the nexus of local wood-dealers, villagers and the forest guards⁸⁷.

As a remedy to the issue of resource access, several gated residential complexes have sprung up in the region. Developers offer road connectivity to the doorstep, running water supply, round-the-clock electricity, indoor heated swimming pools, and other amenities that city dwellers are wont to, relieving them of all hassle. These complexes

⁸⁷ A similar extra-legal interaction between nature and society (Robbins, 2000) is observed by Faggin and Behagel (2021) in rural Caatinga, Brazil.

have exclusive clientele. During fieldwork, two such gated communities were visited, which were occupied by senior bureaucrats and elite businessmen respectively. Through conversations with the developers of both, it came to light that none of the cottages were for sale, they were being constructed on contract and were pre-paid (so the preferred 'gentry' can be maintained). The clients prefer this model of development to lower their transaction cost of constructing a cottage in the hills by themselves. The locals have *eka* (unity) and if any local is inconvenienced, the community can hinder the process of construction. Different stages are vulnerable to such disturbance, such as sourcing of construction material (stone and wood), installing of water pipeline, and contriving of a *kutcha* road to the site. Therefore, contracts of not only gated complexes, but even individual, standalone cottages are given to *pahadi* developers, who can slither in and out of the system and secure every amenity through their *sath-gath* (social relations).

The land-use change is thus driven by in-migration and led by of locals exercising their agency, unlike the oft reported case of farmers being rendered landless due to urban expansion, perforce migrating in search of farming space elsewhere (Lu et al., 2003). This also contradicts the notion that locals are by default ecological conservators (Gadgil & Guha, 1992). Locals in Sitapur village are not at the receiving end of change but are actively leading it. The active presence of local *pahari* builders sheds light on the complicity of the locals and other intermediaries (besides the state) in exploitation of natural resource base (spring tapping, timber collection and stone quarrying) and transformation of forest and agricultural land into real estate. Nguyen and Kim (2019, 2020), similarly opine that local actors interact with changing circumstances as active economic entities and not as passive recipients.

The aware few, stress on the availability of water when purchasing land. The pre-eminence of water in the mountain context is evident in

that it is the very basis of classification of land, more important than type of soil, altitude or slope. Land is either un-irrigated ('*uprari*' or '*upraon*') or irrigated ('*kisanwari*' or '*talaon*'). '*Kisanwari*' is irrigable land situated such that it either has a river flowing next to it, or a spring situated at an altitude higher than itself. '*Uprari*' land is situated on hilltop and has no source of water. For a local, who is buying land for construction, land classification reveals relevant information such as the type of soil, availability, and proximity of water source, and if the land is already levelled because of terraced cultivation, which will save major expenditure during construction. Real-estate agents (who are also locals) therefore eschew local buyers because they make more informed enquiries about the land. A local of Haldwani, who works in Dodital, says, 'I wanted to buy land but real estate agents were not forthcoming, because they knew they couldn't make as much money off me as they could off an outsider (*baharwala*).

Institutional arrangements surrounding water access are shifting because of land-use-change, itself led by in-migration. Land parcels with an on-site spring are sold at a premium. The novel desire to privately own a spring is a break from the socio-ecological relations of the past when spring was implicitly understood as belonging to all, even if it fell on someone's private property. The desire is misguided also because a spring is not unifocal but is recharged through springshed, its supply is gravity based and what is done on the land upslope from it will affect whether or not it dispenses water. Traditionally, springs were collectively managed and controlled by local communities. With the acquisition of lands for building resorts, hotels and weekend cottages, there has been a loss of access to springs for the autochthones. The new settlement processes have consequences for territorial rights governing water access and use in Sitapur village. Relentless negotiations, speculations, contestations, and displacements set the stage for the emergence of new geographies of resource access and governance in rural spaces.

Most of new developments are occurring in administratively rural areas. It is interesting to see how the categories of rural and urban hold little meaning beyond labels when rural and urban features interpenetrate in a space. Dodital, which is administratively classified as rural, exhibits a fusion of rural and urban. The state, its legislations, plans, and regulations are not absent in rural spaces, and it is not fruitful to think of them through the dualism of formal-informal. Rather rural improvises, extending across the range of logics available to it in transversal ways. As many rural residents say, '*kanoon lachila hai yaha*' (law is flexible here). As per the land ceiling act, a person cannot buy more than 1.25 *nali*⁸⁸ for residential purpose. This law is easily bypassed by registering excess land on names of other members of the family. For example, a family of four can purchase 5 *nalis* (1.25*4).

Another example of flexible laws is the clearing of orchards. While forest rules prevent cutting down of a single tree, cutting down acres of orchards (fruit trees) is permissible. This has led to a complete obliteration of orchards from the Sitapur village. Moreover, what is purchased as a residential property is later rented as a villa or Airbnb. A real estate agent in Dodital says, 'the concept of Airbnb and other homestay start-ups has really influenced the market. Large number of investors and buyers see their cottages and villas as a source of revenue (rental income)'. This way commercial taxation is avoided at the time of purchase. Since, these properties are wide-spread, most located in far flung areas, revenue inspections are unfeasible and rare. The complicity of legal and administrative departments in the unbridled land use change is widely known and accepted among locals. A local RTI⁸⁹ activist shares,

If you go to the high court, there is hardly any judicial work happening, just the registration of land (sale and purchase). Most lawyers have turned into property dealers. The only thing that

⁸⁸ A *nali* or *naali* is a local unit of land measurement. 1 *nali* is equivalent to 2,160 square feet or 200.67 square meter

⁸⁹ The Right to Information Act, 2005, is a legislation in India that enables citizens to make enquiries of government departments, with the objective of ensuring accountability and transparency.

happens on time in the court is the paperwork regarding the sale and purchase of land.

In 2016, the Uttarakhand high court imposed a blanket ban on construction within crow fly distance of two-kilometre radius of the lakes in Nainital district⁹⁰. The research site of Sitapur village, including the lakes of Dodital fall under Nainital district administration. During an interview with one of the members of an NGO (its compound adjacent to Dodital lake), I learnt that when the organisation planned to construct more rooms on the either side of the road near the lake, the concerned state official asked for 3-4 lakhs⁹¹ rupees to approve their map. The respondent concluded, 'people always find loopholes, no law stops anybody'. Policies may even prove counterproductive. A case in point is the policy that prevents construction activity within a five-metre radius of a tree. Instituted to protect trees, the policy instead leads to their callous felling. Outsiders who mean to make their homes remove any trees that may stand in the way of their house-plans being passed by the District Development Authority.

As mentioned before, locals are at the forefront of land-use change. The scale and speed of land-use change in Sitapur has been made possible because locals are selling their land. The livelihood implications of this accelerated sale are dealt with in the next section. Locals' perceptions around the frantic sale of land are varying. A farmer in justifying the benefits says, 'Now our children go to schools, wear decent clothes, and behave properly. All because of the money in return of selling land to the outsiders, many of whom employed us too'. Another farmer holds a different opinion of this process. He expounds, 'there are several cafés and restaurants coming up. However, the villagers have no benefit from this development'. 'Benefit' he continues,

⁹⁰ A district in the Kumaon division. Its total area according to the last Census of India (2011) is 3860 km².

⁹¹ Unit in Indian numbering system. One lakh is equal to one hundred thousand.

is when it directly benefits the people. For example, the camp uphill in Sitapur Malla is run and managed by the villagers who are invested in its growth because they enjoy partial ownership, thus it directly benefits them. Now compare that to being a waiter or member of housekeeping staff in a hotel.

The obsession with selling land is fostering disillusion among those from the older generation. 'What happens once the land is sold?', asks a village elder. He outlines the sequence of events following land sale, based on the pattern he has observed. When the land is sold the amount appears substantial. However, just as landholding is divided among sons or brothers, the proceeds from sale of that land are too. For a land parcel sold at fifty lakh rupees, only fifteen-twenty lakh goes to every household (every brother's or son's family). In some cases, it is divided in not three, but four or five parts, depending on the size of the family, leaving ten lakh rupees per family. One hears of many stories about land disputes in families. 'Every family is a can of worms,' says a local. Due to demonstration effect, this amount is usually spent in buying a car or a gadget, constructing a *pucca* house, or in the daughter's wedding⁹². The farmer has also seen many squandering their money on alcohol and gambling. That said, even if the land was not sold, it could not generate enough income for the families of all sons. Since agriculture does not give enough returns to sustain large families, they decide to sell it. Pressures of increasing household size cannot be overlooked in the land-use-change that is unfolding in Sitapur.

In the swift dispensing of land by the locals, climate change too has a part to play. Due to decreasing precipitation pattern and instances of extreme weather, crop yield has seen consistent decline, pushing people to the greener pastures of selling land to an outsider. Also, dried up lake beds give way to land use change. Encroachment is rampant in such spots. A resident of Sitapur *Talla* asks me to recall the path I'd

⁹² A daughter's wedding, in the Indian context, is a resource intensive social obligation. Most families save for this event right from the time of the birth of the daughter.

traversed to get there, 'when you came down did you come across a flat ground? There is a borewell there. Earlier it was a lake. During my childhood a man drowned and died there'. Now there are two houses and a borewell room on the lakebed. Several lakes have disappeared in the region.

5.4. Changing Occupational Pattern

In-migration, and the resultant land-use change, have had far-reaching implications for the livelihood portfolio of the locals (Hoffmann et al., 2019), which was hitherto dominated by land-based activities. Current livelihood strategies reflect a blend of socioeconomic developments, external influences (in-migration, climate change) and cultural values (Kreutzmann, 2004). A move away from land-based activities among the younger generation has come to characterise the region. It should be noted however that this is a complex, multipronged phenomenon affected by socio-cultural and economic factors such as remittance, level of education, land ownership, caste, gender etc. (Guin, 2018). It has been observed widely that the improvement of rural-urban linkages across the developing south correspond to enhanced human capital, economic growth, upgraded communication and transportation (Rigg, 2003, 2007; Nguyen & Kim, 2020).

In Sitapur, while there is an expedited shift away from land-based activities, diversification of livelihood activities itself is not novel. This study follows the understanding of land-based activities spelled out by Shackleton et al. (2001) that appreciates the inter-dependence and interconnectedness of cultivation (vegetables, fruits, and crops), animal husbandry, and gathering NTFP (non-timber forest produce) both for self-consumption and for sale. There has always existed an endogenous diversity of livelihood strategies in Kumaon region. Only now the diversity is created by the processes of rurbanisation. Ellis (2001) defines occupational diversification as addition of new activities in livelihood portfolios of households. It is a 'continuous adaptive

process' in which some older activities are maintained, and others are discontinued. Such intensified heterogeneity of occupations can serve as a veritable metric to distinguish a rural from a rural space.

It emerged from interviews and focus group discussions that at least one male member from every household works outside of land-based livelihood activities, either as an employee or as self-employed. Locals are absorbed in large numbers in the proliferating summer-home-economy, as homestay owners, caretakers of summer homes, real estate agents, waiters in cafes, baristas, bakers and cheesemakers. Besides, Uttarakhand government's impetus on expanding tourism, is opening employment opportunities in the sector. Taxi services, food kiosks, souvenir merchandise, adventure sports on the lake (ziplining, parasailing etc.), bird-watching and other expedient jobs absorb a vast majority of the young people of Sitapur village.

Improved links of transportation aid commutes giving impetus to people opting for non-farm jobs in nearby urban centres (Guin, 2018). Commuting is a new feature in the lives of the locals, with many in Sitapur *Talla* travelling roughly one to two hours every day for work in the nearby urban and rural centres as workers and clerks in factories, government offices, retail stores, restaurants; as lorry drivers; and in specialised professions such as medicine. Deshingkar and Anderson (2004, p. 3) take the case of Andhra Pradesh state in India to show that people choose to commute than to migrate if there are

good roads, communication networks and urbanising pockets (larger villages, urban peripheries, small towns). Commuting offers the dual advantage of higher earnings in non-farm work while keeping one foot in the farm economy and reducing both the risks associated with longer term migration, and the outgoings on food, shelter, healthcare and schooling.

Migrating for employment is not purely aspirational: increasing family size, unsuitable tilling conditions, and pressure on the younger males

of the family to migrate and remit money, are factors that contribute to the occupational shift. Choithani et al. (2021) concur that a component of the occupational shift in wake of rural-urban transition is choice of circular labour migration by the males of the family, while the rest of the family stays on in the village. They also agree that migration choices are not necessarily individual and rational but are made at the level of household. 'I laboured till the age of 57 years and educated my children', remarks Tejveer, who has two daughters and two sons. The daughters were 'married off' and the sons both obtained diplomas in hotel management. They now work in a hotel in Nainital. He reasons that out-migration is necessary because of both a lack of employment opportunities, and an increasing family size. Toulmin (1992) and Devereux (1993) also recognise out-migration as an effective way to reduce the number of people that need to be fed. 'This is the story of every household in this village,' concludes another resident villager sitting with us. He adds, 'it is because of our kids we are able to build pucca houses otherwise we do not have money'. Remittance is widely acknowledged as an enabler for the family back home, contributing to construction or renovation of home, schooling of children or siblings, and purchasing of agricultural inputs (Marenya et al., 2003; Francis & Hoddinott, 1993).

This shift towards the non-agricultural sector can be understood as distress induced (Guin, 2018; McGee, 1971; Abraham, 2009; Bhoi & Dadhich, 2019). The National Sample Survey (NSS, 2011) cites increasing cultivation cost, shrinking farm sizes, and commercialisation as reasons for the movement of labour into non-farm sectors. Crop-sale mechanisms are wrought with problems such as, lack of storage, price cartelisation, and extremely delayed compensation. It is to be remembered that when a farmer in Sitapur *Malla* says, 'earlier everyone relied on agriculture', he is referring to the agricultural lifestyle which included foraging, animal husbandry, and tilling. Poor agricultural conditions similarly mean more than unreliable irrigation source, untimely rains, and crop damage due to wildlife incursion. It

includes the overall degradation in natural resource base, including drying forests and increasing difficulties in maintaining livestock.

Vulnerability associated with tilling is further deepened because access to state run schemes is hamstrung. It is acknowledged that in a qualitative study 'the local, state, and national laws and policies are also important to asses' as they provide '... insight into the overall environment' (Phillippi & Lauderdale, 2018, p.384). A farmer shares that there are no viable schemes for them, be it for dairy or agriculture. Upon further enquiry it is revealed that though schemes exist, access to them is sometimes impeded due to eligibility criteria, such as a certain size of landholding, legally unambiguous paperwork etc. More often, however, they can't avail themselves of the schemes because repeated trips to the district headquarter are monetarily unfeasible for most. They also do not have the wherewithal to manoeuvre the labyrinthine chain of command in *sarkari daftar* (popular reference to the inconvenience associated with overtly bureaucratised government mechanisms in India) for securing their rightful welfare due. Lack of know-how about tilling also compromises their ability to work in the field. 'They acquired no knowledge about tilling, grazing or foraging', shares a resident whose son works in Dehradun.

A large majority of young men of Sitapur village have out-migrated for education and employment. This is part of a larger structural change away from agrarian livelihood (Census, 2011), a multi-dimensional social transformation, assert Choithani et al. (2021), significantly impacting and being impacted by migration. Moving away from land-based activities of agriculture, animal husbandry and forest use, the new generation is newly pluri-active. Pluriactivity refers to a mix of farm and non-farm livelihoods (Kumar, 2016). In such economically diversified households, agriculture no longer serves as the main source of identity (Lindberg, 2005 as cited in Jodhka, 2006). Most of those who still reside in the village are hence absorbed in jobs that cater to the in-migrants and tourists.

A large majority of youth who still reside in the village are women. Cultural norms, especially care work for the elderly and children, prevents women from leaving the homestead and travel for employment (Ingram et al., 2014). Therefore, a prominent feature of agriculture in Sitapur village is the ubiquity of women on the field. Where older men can be spotted sitting in groups, smoking or gambling, even during the daytime, it is rare to spot women or girls sitting idle and chatting. For them talking has to go along their daily tasks. Through transect walk⁹³ and interviews I learnt about the chores women do on a daily basis. They carry out all household chores: fetching water, collecting fuelwood, cooking meals, washing clothes, cleaning, and sweeping. Moreover, they are responsible for tending to livestock: collecting fodder, feeding the animals, bathing them, milking, tethering them to different spots during the day to modulate their exposure to sunlight. They also do the care work for the children and the elderly. Women are also an integral part of the crop production cycle. Other than crop-sale, which is transacted by male members, all chores of sowing, rousing and weeding, application of manure, and harvesting are mainly performed by women (Ingram et al., 2014).

A daily activity clock was generated in conversation with a group of woman participants, comprising of daughters and daughters-in-law.

We arise between 5 - 6 am in the morning, some of us even earlier. The first chore is usually to milk the cows. After that we make tea, prepare food and heat the water for the kids and husband to get ready for the day, say about 9am. After that we sweep the house, get the kitchen in order and wash utensils by 12 noon. (Within 10-15 minutes of this discussion being underway, a young girl was seen ferrying for a second round of fetching water from the nearby spring). Then we prepare food, serve to all, eat and wash clothes. By 3pm or even earlier, we leave for the forest

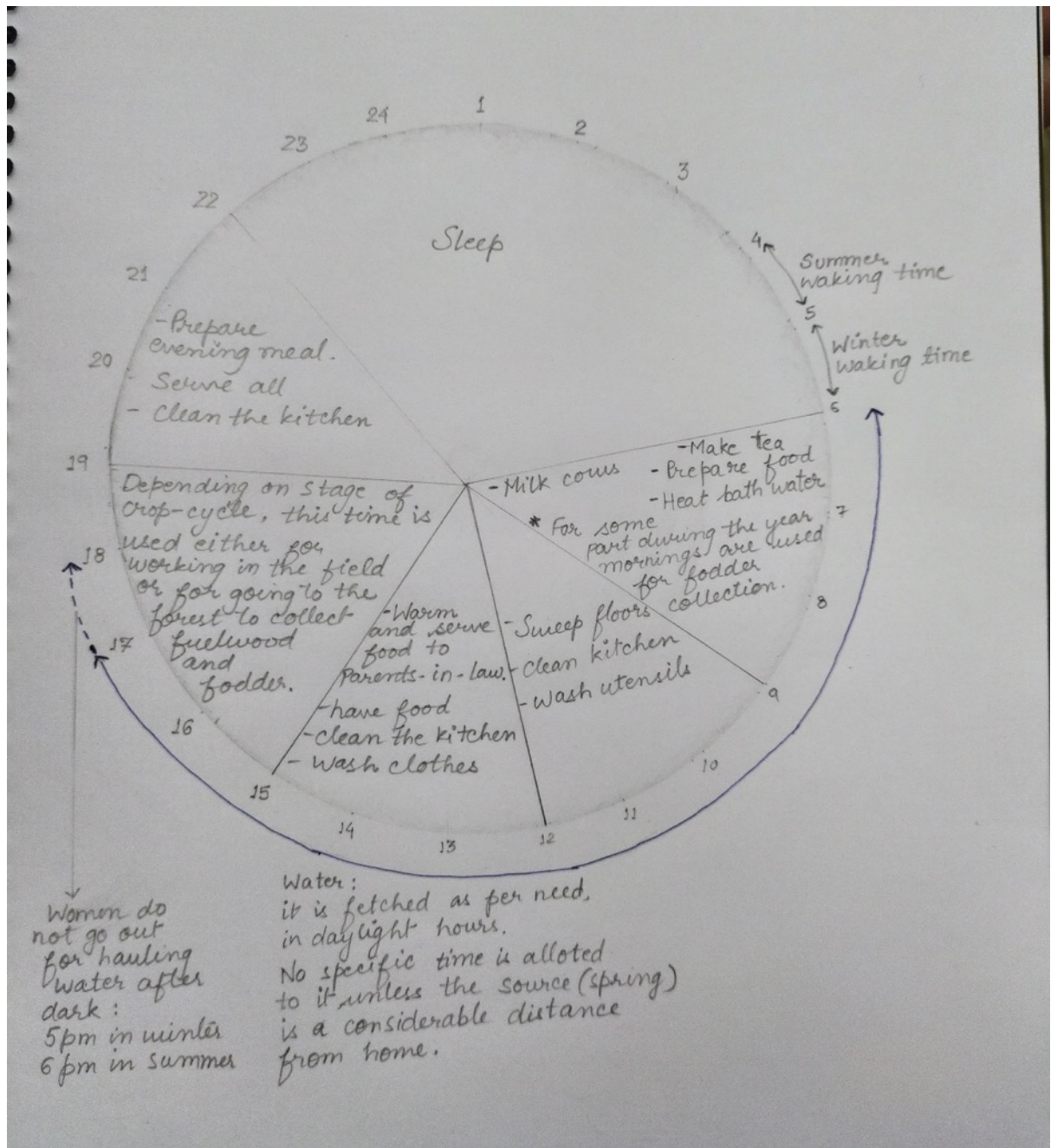
⁹³ A participatory tool for gathering information about the site, locating resources, familiarising oneself with the landscape. It involves on-field observation of land-use, cropping patterns, social differentiation, local practices etc. Transect routes are usually suggested by a key informant. Such walks provide entry points for further analysis.

to get fodder and fuel food. Return by 5 or 6 pm and then start dinner preparation. When there is too much work in the field, we finish fodder collection in the morning after tending to the animals. Sometimes we are at the field from 3 to 7 pm. Post dinner we wash utensils, put the kitchen in order for the next day and then sleep by 10-11.

The researcher enquired about the schedule for fetching water from the spring and learned that there is no fixed time for it; Water is fetched as per need, anytime in daylight hours. When asked if there is any free time, one of them giggles and says, 'we chat when we go out to collect fodder and fuelwood, or while fetching water - that's free time'.



Two women collecting fodder and drying it to store for the winter months for grass will not be available from October end to March. They chat in intervals between work. Photograph taken by the researcher near Dodital.



Daily activity clock of women in Sitapur village. Hand-drawn by the author.

The fruits of their agricultural labour remain a pressing concern for the women. An elderly woman assesses, 'we used to have plenty of crop yield, of wheat, cabbage etc. Now with scanty rain, it's been several years since I saw that kind of yield'. She pauses before adding, 'We woke up at 4am and slept at midnight. These new daughters-in-law don't work that hard'. Sometimes, out of necessity, men can be seen sharing in the work traditionally done by women. Migration may induce recalibration of gendered household duties to some extent (Overa, 2007). This happens in households where the younger generation has

permanently migrated out of the village and the sole inhabitants are old parents. During a conversation, Nand Singh, aged 75, remembers something and hollers to Tejveer, another elderly farmer, 'Have you put water in the manger?' Their wives had gone to the forest to get fodder.

Gender relations at the level of the household are also changing in part because of a greater access to education. As India becomes increasingly literate (Kingdon, 2007), its girls are receiving school education than ever before (Census, 2011). Since Indian independence the state has rolled out a succession of schemes for drawing female children into the education system (Sen, 2002). For example, there is a scheme⁹⁴ that incentivise milestones in the educational journey of girls, right from their enrolment in school to passing high school to obtaining undergraduate degree. Funds also accrue to the girl to help in her wedding expenses. More recently there are reservations in government jobs for females ("33% Quota for Women," 2022). In Sitapur village, these developments have led to more and more parents wishing to educate their daughters instead of exclusively involving them in housework. Consequently, upon marriage, the girls are found lacking in skills needed to undertake household chores (Mehta et al., 2021; Dyson, 2019).

Many on the field shared that they do not desire educated daughters-in-law, because they fear a jeopardised livelihood. A village elder asks rhetorically, 'who will tend to the cows? The sons have all gone out and the new daughters-in-law know nothing of cattle-chores'. Gendered identities of household members have always been relevant in performance of cattle rearing chores. Other studies also explore the role of age and gender of family members in carrying out of animal care duties, decision-making about animal products, and number and type of animals owned by the household (Woldehanna & Zimicki, 2015;

⁹⁴ See Sukanya Samridhi Scheme under the *Beti Bachao, Beti Padhao* campaign of the Ministry of Women and Child Development, India

Njuki & Mburu, 2013; Kimani et al., 2012; Herrero et al., 2013). The elder continues,

The new daughters in law are educated till at least high-school and they have never climbed trees, never cut grass. Never have they fetched fodder from the forest. They don't even know where to get it. Nor have they ever milked a cow let alone cleaned cow dung.

The cumulative income and livelihood insecurity contributes to the shift in occupational pattern from land-based activities to non-land-based activities. Most of those who work outside (of the household) are between the ages of 17 and 30. In words of a farmer who complained about the lumpy cash flow of agriculture, 'people are willing to take up any work for consistent income, such as provide labour on a construction site'. He adds that, 'people with a government job work regularly, others take up expedient jobs. Many just go in the neighbouring areas and work for 20 days a month'. Diversification of livelihood into non-land-based activities is sought therefore not only for augmenting, but for stabilizing the household's income (Reardon et al., 1998; Gordon & Craig, 2001). Of his four sons, one works in the camp uphill, second works as a house help at some *baharwala's* (outsider's) bungalow, third son works at a resort in Dodital and fourth one is a lorry driver.

The employment pattern that emerged during a focus group discussion shows that a majority of those who leave agriculture, work as labourers (not skilled labour). This work is not regular and there are days when people have to contend with sitting idle. Locals acknowledge the opportunities created through commercialisation of the lakes. Kuldeep, who runs a food shack at the Dodital lake, says, 'we have the saving grace of a tourist spot in proximity, but people on the other hill have nothing to do'. There is also a seasonal aspect of being employed in the tourism industry. Kuldeep shares 'they work for three months in summers and for two months in autumn.' In the rest of the months, they find other improvisational work.

Furthermore, change in economic set up is a big reason for disappearance of some of the in-situ occupational diversity. Kak (2017, p.134) mentions that traditional craftsmen who formed the caste called *shilpkars*, that included musicians, tailors, jugglers, acrobats, carpenters, and stonecutters, are hardly found anymore. She adds 'village interdependency and community structure is fast eroding, faced with the onslaughts of a new economy and changing social structures...Labor is imported from Nepal and masons, carpenters and other skilled workers come from Bihar and Odisha.' A reason for the disappearance of the *shilpkars* is their wholesale migration to the urban areas, where they were not looked down upon based on their caste. Their traditional occupational labels and social status attached to those labels didn't carry any import, and hence fell into disuse, upon migration to plains for employment.

5.5. Conclusion

Rurbanisation in Haldwani challenges the notion that the urban drives the growth of the rural either by providing market that spurs commercial production of products and services in the nearby rural (Simon et al., 2006); or by making a demand on rural for land needed for urban expansion (Abdulai et al., 2020; Hudalah et al., 2007; Abass et al., 2018). In the case of global metropolises, rural-urban interaction is initiated by the urban, as it calls upon its peripheries for resources (Silva, 2018; Friedmann & Sorensen, 2019; Tacoli, 2006). Nuancing the concept of 'non-linear and non-urban gradient of urban influences' on rural areas as proposed by Simon et al. (2004, p.235), the case of Sitapur village shows how the rural too may call upon the urban to meet its demand for resources.

Growth in Sitapur village is driven by lifestyle, leisure, privilege, and lately peripatetic mobilities all with an underlying desire for enhanced overall quality of life and access to natural amenities. O'Reilly's (2007,

p.146) explanation of residential tourism perfectly sums up the case of *baharwale* in Sitapur, whose affluence

enables them to turn tourism, to some extent, into a way of life, and to construct fluid, leisured lifestyles betwixt and between places, and in which even when they ostensibly try to settle they still remain in some ways outside or above the community they have moved to.

The urban conveniences needed to support this in-migration are supplied by Haldwani. Unlike in the case of big cities where rural acts as a supply ground for urban needs. In case of Haldwani, the rural (Sitapur) is also a demand ground of resources. Tacoli (2003) restates that urban areas too behave as supply ground for rural. Haldwani continues to grow because of being in the way between the plains and the mountains. Thus, the schematic used in Chapter 3 to portray the coming together of Haldwani as a diffused centre, still holds true to today's case. By bringing into picture the historical resource mobilities, making of space and its dispersed boundaries, Sitapur offers a complex narrative of rurbanisation.

Rurbanisation in Sitapur village also questions the rural-urban continuum, that understands urban as the unavoidable destiny of the rural (Ward & Shakleton, 2016; Bloch, 2015; Nuhu, 2018; Maheshwari and Bristow, 2016; Ravetz et al., 2013). It understands rural as falling on the continuum but looking towards the urban. On the field however a different reality is unfolding. Many people migrate from rural to rural, and rural to rural. Choithani et al. (2021) concur that western theories of urbanisation that view urban growth as impelled by the unidirectional rural-urban migration do not apply fully to the case of India. Moreover, in-migration of *baharwale* (outsiders) is largely urban to rural. *Baharwale* prefer to reside in administratively rural areas, and they bring the city with them. This results in a rural-urban nexus, a hybrid space which has many urban features co-existing with many rural ones. The rural (Sitapur village) while

maintaining its rural demeanour is yet dotted with European style cottages, that are fitted with state-of-the art furnishings. Along emerge the auxiliary services of cafes, resorts, supermarkets, and the likes. This hybrid space, evolving on its own terms, defies the assumption that rural is destined to become urban. Rurban (Sitapur) is the space that by virtue of being rural (premium aesthetics and relatively economical land pricing) is attracting growth (in shape of cottages, resorts, cafes etc.), in turn leading to growth of the proximal urban centre (Haldwani).

Chapter 6 Rurban Water Governance

6.1. Introduction

Through the lens of institutional bricolage this chapter empirically explores the influence of rurbanisation processes on water governing institutions. Rurban is a dynamic space where institutions that mediate access to water do not abide by rural and urban boundaries. In Sitapur not only do administrative resource boundaries overlap (for example, water is controlled by the irrigation department even though its source is located under the jurisdiction of forest department), but resources themselves overlap (for example, forest is the source of water), and use of one resource is combined with the use of another (for example, water is needed for maintaining livestock). These overlaps shape the everyday practices around water in Sitapur village (See Cleaver & Frank, 2005). Practices are developed within a particular social context through learning (Corradi et al., 2008). Actors adapt, modify, and integrate historical practices with successive statutory institutions (Mosha et al., 2016), creating hybridity and multiplicity of institutions governing the entangled natural resources. Active actors who are embedded in the context and who creatively react to the changes, such as introduction of a new institution, are called bricoleurs (De Koning, 2011; Cleaver, 2002).

There is a consensus on the importance of improving water governance as the way to address water insecurity in the global south (Hoekstra & Chapagain, 2007, Biswas & Tortajada, 2010; OECD 2011; Briscoe, 2009). Yet, water governance remains inherently difficult to conceptualise because how water is known and lived is not universal, neither is its quality.

Knowledge of water is seldom straightforward and conclusive enough to provide an unequivocal basis for decision making. This is partly because water is notoriously capricious. Its behaviour is difficult to precisely predict, not only in general terms of quantity and quality, but also in terms of its physical appearance, its specific location and its precise timing (Zwarteveen, et al., 2017, pp. 4).

All physical features of the region, especially its elevation, vegetation and climate, contribute uniquely to the waterscape, and have engendered different practices around water access and use. The chapter investigates 'the more hidden, informal and everyday dimensions of institutional life' (Whaley, 2018, p. 139). Empirically observed changes in practices do not obligingly lead to their exact origin. Attempts to trace underlying structures that drive change in practices are encumbered by uncertainty, discontinuity, and unevenness. In other words, there is more to rural water governance than meets the eye. The compounding effect of climate change and variability on Sitapur's waterscape is only briefly explained since it is not central to this study. The study's focus instead is to understand the impact of ruralisation on changing water practices.

The chapter opens with an introduction, following which section 2, through its five subsections, details water uses, provisioning, and sources in Sitapur Village. It also shows the changing quality and quantity of water under the impact of ruralisation and climate change. Section 3 is divided into five subsections that present the empirics respectively for the various facets of institutional bricolage in Sitapur village: the plurality of institutional arrangements around water distribution and access; palimpsest of water practices in contemporary Sitapur; historical continuities in water practices; how social and power relations impact water access; and how worldview of bricoleurs impacts water practices. The conclusion section enables a conversation among the preceding sections and synthesises them to present the mosaic of water governance in Sitapur village (rural Haldwani).

6.2. Locating Sitapur's water:

6.2.1. Water uses

Residents have three broad uses of water: drinking, irrigation, and domestic use such as washing clothes and utensils, bathing, and cooking. To provide for these purposes there are broadly three sources of water: the springs, the borewell next to the lake, and the river Balia. Other than manual hauling, different technologies are used to access water through these sources, such as *guls*, *naula*⁹⁵, stock-tanks, and pipelines. Supporting tourism is also a principal use of water in Sitapur village. The Dodital lake is abuzz with touristic activities: water sports, boating, lake side eateries, campsites, hotels, and the like, all means of livelihood for locals.

6.2.2. Water provisioning

Sitapur village receives its piped water under the Swajal scheme. Swajal is a World Bank funded scheme that relies on a demand driven planning, designing, construction, operation, and maintenance of water supply. Under the Swajal scheme, rural communities (through gram panchayats) generate the demand and Uttarakhand government provides technical, training, facilitation, and sometimes financial support.

As of 2021, the overarching body responsible for water in India is the Jal Shakti ministry at the centre. In the federal polity of India, there are three tiers of government: central, State (province), and local (including urban and rural bodies). Since water falls in the State list⁹⁶, individual States are responsible for provisioning rural water. The Department of drinking water in the Government of Uttarakhand takes care of urban water supply and sewerage, rural water supply, and

⁹⁵ A *naula* is a traditional water-harvesting system. It's a stone structure built around the mouth of a subterranean spring, that collects water.

⁹⁶ State list of the seventh schedule of the Indian constitution enumerates the range of subjects under which State legislatures may make laws. The parliament can make laws on matters of the union list. Both the States and the centre can make laws on items in the concurrent list.

sanitation services. It comprises three institutions: Uttarakhand Peyjal Nigam (UJN), Uttarakhand Jal Sansthan (UJS), and Project Management Unit (PMU) for Swajal project. In context of a rural space, the first institution, UJN, oversees construction needed for drinking water schemes in urban and rural areas. The second, UJS, carries out operation and management functions of these schemes. Beside the State level UJN and UJS, there are district level UJNs and UJSs as well. The ultimate right to manage water schemes is delegated to the Gram Panchayats (village councils). It is at this level that community-based management of rural drinking water and sanitation schemes, Swajal for example, are carried out.

The original settlement at the top of the hill is called Sitapur *Malla*⁹⁷. Its residents obtain water for domestic and drinking purposes from the pump at Dodital. The pump is just at the bank of the lake, generating much ambiguity about whether the water is being drawn from the lake or from the adjacent ground, which naturally, has a high-water table. Water is supplied for one hour in the morning and one hour in the evening. Irrespective of their usage, residents are charged 710 Rupees⁹⁸ for two months. The main pump at Dodital lifts the water and stores it in the stock tank⁹⁹ uphill at Sitapur *Malla*. Piped water distribution begins from the site of the tank. Pipelines carry water gravitationally to individual households. There are roughly 40-45 houses, housing 400-500 people. The water supply though more or less consistent, does not suffice for household consumption of water.

Sitapur *Talla*, the lower part of the village, has a perennial source of water in the spring (this is a different spring than the one used by *Malla*

⁹⁷ As per local nomenclature for settlements, villages on the same slope often bear the same name, qualified by a suffix or prefix indicating their relative position. The common qualifiers are: *malla* or *malli*, meaning situated at a higher altitude; *talla* or *talli*, meaning situated at a lower altitude; and *walla* or *palla*, meaning situated on either flank of a stream. Two parts of a village do not co-evolve; one is pre-existing and the other emerges from it.

⁹⁸ At the time of writing this thesis 1 USD was equal to 74 INR (Indian Rupee)

⁹⁹ The stock-tank is a rectangular cement tank, from the floor of which rises a cement wall dividing the tank in two halves. This divider stops one foot short of the ceiling. The pipe is let into one section where it deposits spring water. Silt and debris settle down at the bottom of this section. Clear water overflows into the other half, from where it is let out into pipes.

residents). For about 25 years now, residents receive spring water through pipeline laid by the Pey Jal Nigam. The pipeline is laid close to the source (spring) from where it collects in a stock-tank that is built at a point from where the village slopes downwards. The parts of the village at the lower end of the slope augment their domestic water supply from river Balia, that skirts the foot of their hill. River Balia is often referred to as Gaula by the locals, although¹⁰⁰ it flows for a kilometre as Balia before merging into Gaula. Driven by demand of the community, Peyjal Nigam¹⁰¹ (UJN) has installed a pumping motor at Balia to lift water and supply it through pipelines. This arrangement caters only to the residents of the part of Sitapur *Talla* that is towards the bottom of the hill. Two linemen have also been hired on daily wage for maintenance of the motor room. The pump was installed about 10-15 years back. Before this arrangement the residents of Sitapur *Talla* relied completely on the spring water.

6.2.3. Where does water come from?

A large part of the water need of Sitapur village - drinking, household, and irrigation - is met by the springs, and the springs themselves are made in the forest. Multitudinous springs originating in the forests form a web of perennial streams, rivers, and lakes that are characteristic of the hydrology of the region. The three locales that make up the administrative unit of Sitapur village, namely, Sitapur *Malla*, Sitapur *Talla*, and Dodital, have complex inter-connected water systems. The most conspicuous water feature of Sitapur village is the Dodital lake. 1.3 km long and 0.2 km wide (Choudhary et al., 2009). Lake water is pumped up to the top of the hill supplying the needs of the people in Sitapur *Malla*. The spring at the bottom of the hill that caters to the needs of Dodital, emerges from the forest on the slope. The spring that

¹⁰⁰ Names meander much like rivers themselves. The same river for a finite stretch is called by one name and on entering another area be called by another name. These are not random phenomena but can be seen as part of broader 'fluvial intimacies' i.e., how water bodies form part of personal and communal histories, perception of self, and socio-natural landscapes (see Drew, 2013).

¹⁰¹ An undertaking of the Uttarakhand government, working under the Ministry of Drinking Water and Sanitation. Pey Jal Nigam is an autonomous body responsible for construction under water schemes. The maintenance and operation of the construction is overseen by Uttarakhand Jal Sansthan (UJS).

supplies water to Sitapur *Talla* is believed by the locals to be subterraneously fed by the lakes of Dodital.

Himalayan forests are the storehouse of water. Native trees such as *banjh* oaks (*Quercus leucotrichophora*), *tun* trees (*Toona ciliata*), *kail* pines (*Pinus wallichaina*), *utis* trees (*Alnus nepalensis*), *haldu* trees (*Haldina cordifolia*) and others, have deep root systems that help in percolation of rainwater into the ground. It is this water, recharged during the monsoon months (mid-June to mid-September), that forests release slowly throughout the year, thus creating perennial springs. In the region, *banjh* oak is the keystone species¹⁰². Other than effecting deep drainage, these trees pull moisture from deeper layers of soil, transpiring even in the dry months, thus maintaining yearlong humidity in the forest. With declining population of *banjh* oaks, the forests are fast drying. Dense vegetation of oak forest adds a layer of foliage that retains moisture in the soil, helping recharge of subsurface springs (Tiwari, 2008). These springs flow down gravitationally as streams and are harnessed through various technologies: *guls*, *naulas*, and pipelines.

Although the hydrology and socio-cultural dynamics of Himalayan glacial rivers have been widely researched (Drew, 2017; Swarnkar et al. 2018; Jain & Singh, 2018; Singh & Singh, 2020; Dilshad et al., 2019; Lahiri-Dutt, 2000), it is the forest rivers that make the foundation of yearlong water supply in the outer Himalayan region of Kumaon (Pawar, 2020). Forests sustain the spring-fed (or forest river) rivers and reinforce the flow of larger glacial rivers during winter when the melting of ice can only provide a trickle (Joshi, 2019). A telling example is the river Ganga, the mightiest glacial river in the region. After emerging in the plains at Rishikesh¹⁰³, when it flows through Garh Mukteshwar (a small settlement in the Uttar Pradesh State) about

¹⁰² Over and above ensuring a good water supply, *Banjh* oak ecosystem is valued highly by the locals for it confers many forest products, fodder for cattle, fuel wood, fertilizer for field.

¹⁰³ Known as the 'Gateway to Garhwal Himalayas', the religiously significant town of Rishikesh is where river Ganga debouches onto the plains of Uttarakhand, flowing further into Uttar Pradesh. The town is popular as a yoga destination and lies at a five-hour drive north of New Delhi.

100km ahead, Ganga only has 29% of glacial water. The rest of its water comes from the numerous tributaries, most of which are forest rivers (NITI Aayog, 2018b). Glacial rivers flow with high current, carving deep gorges, and making it impracticable to fetch water from them (Joshi, 2019). For everyday use, therefore, the Himalayan people have largely relied on streams that are fed by springs which in turn are fed by the forests. The Indian state's think tank, NITI Aayog (2018b) has advocated mapping the springs across Himalaya, in recognition of their potential to meet 80% of the water need in the mountains.

6.2.4. How is water's quality and quantity changing because of rurbanisation

Processes of rurbanisation have an impact on the quality and quantity of Sitapur's water. A conversation with a migrant couple is telling of such impact. Living between Dodital and Delhi for the last 32 years, the couple has seen the water situation change in the area. Pointing outside their sunroom, to the valley, they say 'there was a spring there that began drying soon after the university campus swallowed up acres of wetland. And water was gone for good after the cottage estate mushroomed over there (pointing to the hill opposite the valley)'. The husband whipped out his phone to show a decade-old picture of the sylvan hill, the lion's share of which is now covered by the cottage estate.

The process of migration is similarly impacting Sitapur's water. The lakes of Dodital are imperilled by the unplanned construction of migrant-centric infrastructure, that is keeping the water from draining into them. Extensive construction activity, unplanned roads and buildings are leading to increased rainwater run-off thus preventing subterranean water recharge (Sharma et al., 2013). Increasing anthropogenic activity in the lake catchment is leading to deterioration of water quality (Choudhary et al., 2009; Joshi, 2006). 'The water in the lake,' laments a local, 'is nothing like before'. Moreover, the springs are drying up as big building complexes appear on the slopes above

them; Panwar (2020) gives the disturbing figure of Kumaon losing three perennial springs per year.

6.2.5. How is Sitapur's water impacted by climate change

The Lower Himalayan region is witnessing recurring episodes of water scarcity largely due to under-investigated interconnectedness among land-use change, climate change, and heightened consumption (WLE-ICIMOD, 2017). Disturbance in precipitation pattern generates water insecurity in the region, since the springs and forest rivers that sustain the local life depend on rainfall for their recharge. In the last two decades, the palpable impact of climate change on precipitation pattern, is not only experienced as decreased winter rain but also as increasing episodes of high-intensity rainfall during monsoon (Pandey et al., 2018). Such rain is not absorbed in the ground causing water run-off.

People's actions and decisions in everyday life change to accommodate their perception of climate change, thus serving as a useful gauge of its impact (Halder et al., 2012; Danielsen et al., 2005; Alessa et al., 2008; Berkes & Jolly, 2001; Laidler, 2006). Since the average discharge of the spring has reduced over the years, locals have taken to the adaptation mechanism of a stock-tank. Declining rain and water in the springs is also forcing some local farmers to forgo cropping cash crops such as cabbage, potatoes, peas, and staples like wheat. On the first visit to the field in November 2019, wheat had been sown and was being irrigated. A farmer in *Talla*, interviewed during this visit, comments, 'these days we have plenty of water, however, during summer the flow is not strong'. 'We don't lose sleep over it but it's just a little less', shares another farmer, and goes on to conclude, 'we don't have a Ganga¹⁰⁴ flowing here. There is water for irrigation, that's all.' Some farmers mitigate the climate change impact by rotating and diversifying crops, and modifying the time when crop is planted.

¹⁰⁴ Ganga or Ganges, is one of the biggest glacial rivers in India, held as sacred in scriptures and folklore alike. Here the farmer refers to it as a comparison in terms of volume.

The relationship between society and ecosystem, services the latter provides the former, and how both respond to changes, can be better understood by taking into account local knowledge, in turn bettering the understanding of the impacts of climate change (Byg & Salick, 2009). During a focus group discussion, it came to light that the villagers gauge rainfall by the opening of the spring. Opening of a spring points to the discharge of water from it, indicating a healthy hydrology and replenished aquifers. The spring did not open in 2019, because there was no *sat-jhad*, the contiguous light rain for seven days. Since the volume of spring discharge is sensitive to precipitation, wavering discharge indicates fluctuating monsoon circulations. The villagers recount that while the spring opened in 2018 and also in 2017, in 2015 there was so much water that it reached all the way to the lake. Another measure of rainfall is the waterfall in the vicinity. A local relates, 'the waterfall had no water, that's how I can tell you there was less rain this year'. Drying springs are in turn leading to a continual dipping levels of lake water. Residents' accounts for example corroborate the drying up lakes in the region (there were many interconnected lakes in the region and not just the seven that remain).

6.3. Rurban water institutions as seen through the lens of Institutional Bricolage

6.3.1. Institutional Plurality and Leakage of Meaning

Water governance in a rurban space is multi-stranded; the statutory and customary, formal and informal, old and new practices overlap as they intersect with different interests and meanings. Critical institutionalism focuses not only on the narrow, local-level institutions but also links them to broader analyses. Thus, while emphasising the complex local practices and their adaptability this study also fits them in the larger social and political change in the region. Agarwal (2005) shows multi-level forest management achieved as forest users interact with village forest councils, who interact with the forest department at

State and further at national levels. Interlinkages in different scales and, and a study of intersecting domains thus becomes a chief concern of institutional analysis. Critical Institutionalism also highlights those workings and meanings of one domain often transfers to another, as 'sets of rules are metaphorically connected with one another, allow meaning to leak from one context to another' Douglas (2002, p. 13).

Even within the statutory sphere, water governance in Sitapur village displays a complex and overlapping jurisdiction of various state departments. The water of the spring, in fact all surface water, comes under the jurisdiction of the irrigation department. Thus, it is the irrigation department that gives permission to the Pey Jal Nigam (UJN) to install pumphouse at the lake or install pipelines at the spring. The pipelines themselves spread over the area that falls under the forest department. Similarly, springs, traditionally used by the communities, now fall under the forest department.

Springs are easier to access when they lie in the part of the village forest within the jurisdiction of the *van panchayat* (village forest council) and not of the Forest department. Access to springs is also obtained inside the boundary of reserve forest¹⁰⁵ based on meanings attached to water, and on locally accepted way of doing things. There is much scope therefore for overlapping institutions and for commingling of statutory rules and regulations with social norms of water access and use (Cleaver, 2001; 2002). It is not that social norms always prevail. Locals are not permitted (by the forest department) to maintain the spring, for example, when heavy rains or storm fell trees or bring big stones and other debris that completely or partially clog the spring in a reserve forest. Villagers can no longer access such a spring because there are strict rules in reserve forest regarding

¹⁰⁵ The category of 'Reserved' forest was instituted by the British government in 1878 (Indian Forest Act). Reserved forests were typically near town boundaries with a view to ease the extraction of timber. They were completely out of bounds for the locals. Additionally, all wasteland was counted in this category. Reserved forest is proving to be a misnomer in modern India, commonly misunderstood as forest that is preserved or conserved.

displacement of any forest resource, including boulders and trees that fall due to natural causes.

Complicating the overlapping jurisdiction of the Forest and Irrigation departments, is the newly prominent stakeholder in the waterscape of Sitapur village: Uttarakhand Tourism Department Board. In collaboration with the Government of India, the UNDP, and World Tourism Organisation and the government of the Uttarakhand State, the Tourism Development Master Plan 2007- 2022 envisages sustainably increasing tourism facilities, products, and infrastructure. Such density of organisations and institutions acting in a space in service of developmental goals is called institutional thickness (Restrepo & Clavé, 2019). In Dodital, state efforts at enhancing tourism are visible in the Dodital redevelopment plan which proposes among other things, beautification of the lake, creating trails that connect the lakes, making viewing points, developing a children's park, and promoting water sports. Landscaping is a major element of the proposed plan. The plan has commenced, and its works are underway. State's impetus on tourism is thus leading to land-use change around the lake, which in turn impacts local water practices.

Tourism is also a major source of revenue for the irrigation department. It levies license fees on all activities in and around the lake: Rs 300 per boat per year (for roughly 150 boats here), Rs 400 per rope per year for river crossing (rappelling), and Rs 1000 per year for kayak license. Before an activity can commence, an application is filed at the DM (District Magistrate) or SDM (sub-divisional magistrate) office. The file is then forwarded to the irrigation department for review where the terms and conditions for the activity and its licence fee are defined. To ensure that an adventure activity is safely conducted by trained personnel, the person proposing is required to produce a certification from a recognised body. I learnt from a key informant, a vendor himself, that most vendors are not actually certified. One or two who are, sub-let their certificate to others helping them procure a permit.

Locals rely on their social relations to navigate the bureaucratic labyrinth. Agency of bricoleurs is foregrounded in this practice, as they creatively craft new institutions to integrate bureaucratic rules, adapting them to local context (Faggin & Behagel, 2018). The institutions around water use are 'thick'; bricolage explains that piecing, blending, and layering of different institutions (by bricoleurs) allows them to endure, despite changes over time.

De Koning (2011; 2014) and Cleaver and De Koning (2015) lay down three processes that occur when a new, bureaucratic institution is introduced to a local setting: Articulation i.e., refusal of actors to submit to newly introduced institutions; Alteration i.e., dulling the edges of the newly introduced institutions, to make them better suit the livelihood priorities of the locals; and Aggregation i.e., blending of traditional institutions with statutory rules and regulation. Alteration process for example can be observed at the interplay of locals' claim to the lake and Irrigation Department's jurisdiction over lake's water. Locals translate and modify the statutory rules, resisting bureaucratic control. They believe that they have every right to make a living off the lake since it has been historically embedded in their everyday lives. Thus, while licensing for adventure activities at the lake appears to follow due process, is in fact negotiated by the locals exercising their agency. They expedite the process (of receiving a permit) by circumventing certification requirements. Complex social relationships come into play, as a certified adventure sports professional lends his certificate to others aspiring to set up shop. The region is teeming with falsely qualified operators and low-grade equipment, ergo one hears many a grim tales of accidents. Checking of oversight during licencing encumbers state's motive of maximising adventure tourism¹⁰⁶.

¹⁰⁶ A separate department of Adventure Tourism has been carved out in the Uttarakhand Tourism Development Board (UTDB) (Madhwal, 2018).

6.3.2. Palimpsest of water practices: continuities and discontinuities

Sitapur village is witnessing competing uses of its springs and lakes. The Dodital lake that formerly met everyday needs of residents of Sitapur village, now has to meet the water, as well as the aesthetic, needs of tourists and in-migrants. In a telling account, Sanjeev, a local who runs a shack café at lakeside, relates 'where the eateries stand today along the lake, not long ago used to be a dense jungle'. Villagers used the lake every day, coming downhill from Sitapur *Malla* to graze their cattle. Women used to wash clothes on its banks and fill up their *gaagar*¹⁰⁷ (copper pitcher) to carry back with them for household chores. Cows were left to languor in its water. Reminiscing, Sanjeev adds, 'we would slip from under our parents' noses to be at the lake, to play and swim in the water.' Fishing was common. Local communities managed the commons putting it to various ecological, cultural and social uses (Gerber & Hess, 2017; Unnikrishnan et al., 2017). With increased tourism interest in the lake, its everyday use by the villagers waned.

Today, most economic activity (shops, cafes, hotels, and resorts) in Dodital caters to tourists and residential in-migrants. Water in the lake is now the anchor of tourism related livelihood activities. Since most of those who cater to the tourists are from the village itself, the discontinuance of older practices around the lake water came to pass without much conflict. Nearly all photographers, water sport vendors, shack-café owners and others forming the tourism ecosystem of Dodital come from Sitapur *Malla* and other nearby villages. There was much understanding amongst the locals that new avenues of livelihood induced by tourism should not be compromised by the uncomely sight of grazing and languishing livestock, or women doing laundry. With the change in practices around water use at Dodital lake(s), watering points that are crucial to pasture-based livestock farming (Jodha,

¹⁰⁷ *Gaagar* or *gagar* is a traditional vessel made of copper. It is used to hold water. Hindu culture holds copper in high esteem for its curative and anti-bacterial properties. *Gaagar* is shaped differently in Punjab, Nepal, Kumaon and Garhwal. In Kumaon it is among the important gifts given to a bride on her wedding.

1985) have fallen into disuse, reducing in turn the livestock flock size for the locals.

It was on account of this dependency on the lake that locals protested the release of water from the Dodital dam. The dam was constructed over a century ago by the British to support expanding irrigation in Haldwani (Atkinson, 1884/2014, vol.3), by augmenting the flow of Gaula at the onset of summer with the water from Dodital lake. The dam has not served this purpose for the last 15-20 years, on account of local resistance. Instead, now water is released through the sluice gates in the monsoon, to prevent water overflow in the lake. Both the lakes and Gaula are brimming in the monsoon. Dodital can ill afford to lose lake water because many locals depend on it for livelihood. Many a respondent engaged in activities in and around the lake expressed anxiety about the stretching summer months, and dipping water level in the lake.



Ek hathiya ka naula in Champawat district of Kumaon, built by the Chand Kings. Photograph taken by the researcher.

Historical trajectories are critical in explaining how contemporary institutions are shaped (Cleaver & De Koning, 2015). Most of the *naulas* in Garhwal and Kumaon, in use to date, were built during the rule of *Katyuris* (7th-13th century CE) and *Chands* (13th century CE to 1760 CE). Locals established idols of gods in the *naula*, thereby lending it a sacred status. They ensured that these water harvesting sites remain uncontaminated, by preventing entry of animals. *Naulas* are fast drying up due to both climate change (Panwar, 2020), land-use change (Chhimwal et al., 2022), and lack of maintenance (Rautela, 2015). Migratory patterns also affect the upkeep and relevance of *naulas*. Large numbers of *pahari* locals are migrating to the plains, and the in-migrants remain ignorant of the relevance and maintenance of *naulas*. Although neglect and disuse are on the rise in the wake of households receiving piped water, these traditional systems continue to play a crucial role in ensuring water security for the locals, in summers and in other times of water shortage.

In Sitapur *Talla*, similarly, *guls* continue to be a part of locals' life. Fed by a perennial spring, the *Gul* flows right from front of farmers' houses, and it is not uncommon for women to draw water from it for household chores, even though there is a piped supply inside the house. The source is considered clean because there is no habitation between the village and the spring, only about a ten-minute walk uphill. On following the *gul* uphill, I chance upon a (non-local) labourer¹⁰⁸ lowering his feet into the *gul*. Paan Singh's wife, having spotted this trespass from afar, walks up to the bloke and says in no lenient tone 'this water goes in people's homes, it is not for washing yourself.' *Gul* drains into river Balia that flows at the foot of the hill.

Before the advent of the pipeline, all the water needed in a household in Sitapur *Malla* was brought by its women from the spring. It was

¹⁰⁸ Majority of labour for skilled work such as carpentry, masonry, ironwork and the likes comes from plains States of Uttar Pradesh, Odisha, and Bihar.

common for men to go to the spring for bathing and washing. Now, every homestead features a bathroom, and bathing activity has shifted indoors. While there is piped supply, a new configuration for governance, it doesn't dictate the contemporary institution of water use, instead it is patched together with previously sanctioned practices and meanings (Sehring, 2009; Upton, 2009). The piped supply is inadequate and does not meet the entire family's sanitary requirement. Women and children continue to haul water from the spring for furnishing the deficit.

In the Indian context, and broadly in that of the global south, piped water infrastructure faces many challenges. For one, the infrastructure is outpaced by the growth of population. Piped networks, usually laid in urban centres also come under stress (unreliable service, weak water pressure, sporadic supply) with the expanding urban boundaries (Satapathy, 2014; Mehrotra & Delamonica, 2005; Zérah, 2000; Connors, 2005). As seen in the case of Haldwani city, incorporation of pre-existing rural centres surrounding the city into its boundaries is politically driven. Unprepared to accommodate the intensified tapping of water supplies, by additional population spread in a larger area, the public utility networks ultimately fail to meet water needs (McDonald et al., 2014). In Sitapur, water regimes feature interaction of a multiplicity of actors and institutions. It is not uncommon for individuals to lay their own pipelines from the source; sometimes a community provisions for its needs by installing a pipeline. Piped network, though treated as a touchstone of the 'organised' water supply system, in Sitapur is found in both statutory and non-statutory governance spheres.

Since the state provided piped water does not fulfil daily requirement, there remains considerable insecurity around water availability, which the villagers address through older sources and through ad-hoc water stocking solutions. Patchy water access through variable and inconsistent approaches is also explored in other places in India and

the global south; Bangalore (Drew et al., 2021); rurban Hyderabad (Vij et al., 2019); rurban Ashaiman, Ghana (Peloso & Morinville, 2014); rurban Dar es Salaam, Cochabamba and Kolkata (Allen et al., 2017). The case of Sitapur is telling of patchy water access. The water pump (that feeds the pipeline) alongside the Dodital lake was installed around 2010-2011. Prior to the pump the residents depended upon a spring down-hill towards Dodital, and briefly on another pipeline that came from Bhimtal via another neighbouring village. 'It was never sufficient like this pump is', recalls a resident. Contrarily, he informs, 'we still maintain and keep an eye out for the spring for unforeseen circumstances, such as power cuts or breaks in supply because of pump maintenance'. In Sitapur village there is considerable security attached with the spring on grounds of consistent and long-term supply; 'even though the flow is not the same as it was in my childhood', says Kishan, a resident of Sitapur *Malla*. He expresses concern about another spring in the forest that the village used to rely on. The said spring, however, has for some time now, been clogged with debris, due to a landslide. Forest officials do not permit the villagers to clear up the spring because of the stringent regulations that apply to a reserved forest.

Drew et al. (2021) term such response of locals to varied, inconsistent and insecure water access in rurban areas as 'patchwork adaptability'. The concept builds upon the large body of work on water insecurity characteristic of low-income households (Jepson & Vandewalle, 2016; Brewis et al., 2019). It also contributes to the understanding of water insecurity studies conducted across various urban centres in India (Narain et al., 2020; Mehta and Karpouzoglou, 2015; Kumar et al., 2018; Goldman & Narayan, 2019). In earlier rurban studies Allen et al. (2006) and Mulenga and McGranahan (2011) note how locals opt for myriad 'needs-driven' practices to fulfil their water needs in absence of a networked physical infrastructure. Coping strategies are also actualised in response to climate change. During summer, the residents of Sitapur village, turn to fetching water from the lake, for

their animals, because the spring scarcely meets this need. In the past, they have also walked 3-4 km to fetch water from a *naula*. There is also a water tank of rainwater harvesting system that was installed by a missionary organisation about a decade ago. The tank was built to meet villagers' water need for livestock and for the vegetables in kitchen gardens. Due to declining precipitation levels, however, the tank did not serve its purpose. Villagers have re-purposed it as a stock tank for storing water from the lake pump's piped supply.

The stock-tank in *Talla* (lower part of Sitapur Village) serves the purpose of a depot from which running piped water is distributed. No pipeline is laid at the stock tank in *Malla*, residents haul water from it manually. Thus, people in *Malla* (upper part of Sitapur Village) interact with the stock tank differently, based on their requirement, which is to combat water insecurity. This insecurity arises due to a combination of fluctuating discharge in the spring and inadequate piped water supply. In terms of local water governance, the stock tank in *Talla* is a distribution point whereas in *Malla* it is a point of access. Institutional arrangements around the two therefore differ. 'The socio-technical approach', explain Narain and Singh (2017, p.69), 'sees technologies not as socially neutral, but as socially constructed. They are socially shaped ... constituted and reconstituted by social and power relations'. In *Malla*, water received by a household depends on how many rounds were made to the spring. The implicit socio-power relations of the household thus come into play, in that the burden of fetching water is borne by women and children. In availing of bathwater, the needs of men and children supersede that of women. In *Talla*, by comparison, these relations remain subdued because the water is available to all family members at the turning of a tap. Another difference is the maintenance of stock tank. Moreover, in *Malla*, since residents interact with the stock tank directly, they take it upon themselves to keep it clean. In *Talla* in absence of a direct interaction of residents with the stock tank, its maintenance falls by the wayside.

To achieve water security has always been a concern in the region, for both locals and outsiders (Chhimwal et al., 2022; Ojha et al., 2020). One respondent, an in-migrant in her 60s, says, calling to mind early 1990s, 'when we built this house there wasn't even a road to connect it to the main Dodital road, we built one ourselves'. She 'distinctly' remembers acquiring connections for telephone and electricity much before managing a reasonably secure water supply. Presently in Sitapur *malla* there are several forest resorts, retreats, and rental summer cottages that avail of the piped water supplied via the Dodital pump. This is rarely enough. Some of them boast of private piped connection from a spring or a private borewell. A resort owner shares, 'The struggle here lies in accessing the resources. Even to get our ration (of foodgrains and other groceries) we must travel to Bhimtal or Haldwani. To get water and not run out of it, we had to invest in rainwater harvesting system'. The respondent's resort along with the piped water connection from Dodital pump, also has a private tube well in a dried lakebed slightly downhill from the resort. I visited two other resorts in *Malla*. Of them, one shares the same piped connection and the other has a private piped connection to a spring 400 meters away from its facility.



The photograph taken by the researcher shows a motor installed at the Dodital *naula*. The orange pipe at the bottom of the structure connects the motor to the water reservoir. The pipeline is stretched to the nearby resort.

Water insecurity is experienced differently by locals and in-migrants, since water access remains differential. Unlike the socially embedded institutional arrangements of water access and use, outsiders appropriate water in ways that are removed from the socio-ecological context. There is, for example, a motor installed at the *naula* (the only one) in Dodital, over-appropriating the spring water to supply water to a camp for tourists. In times of shortage (mostly during summer) they, fill up big water tankers from nearby rivulets or from as far as river Gaula. Such arrangements remain palliative, generating no long-term solutions. In contrast to those with privileged access, in times of shortage, villagers recourse to walking long distances for manually hauling water at a spring or *naula*. It is thus useful to see older practices as veritable alternatives rather than as relics which will eventually dissipate with water supply motivated by neoliberal reforms.

6.3.3. How social and power relations mediate access to water

In rural spaces, actors recourse to various means to access water. How water is received depends on power relations, social prestige and

caste, social networks and economic status of different groups, religious factors and livelihood concerns (Cleaver et al., 2021; Shrestha et al., 2020; Peloso & Harris, 2017; Walters, 2016; Narain et al., 2019; Vij et al., 2018). In his account, an in-migrant relates that soon after he had laid a private pipeline on a spring used by the villagers, they stoppered his pipeline with twigs and grass, because he was a *baharwala* (outsider). Continuing a sour recollection, the respondent says 'I have done all sorts of things to have water here. It has been quite a *tapasya* (Sanskrit for long meditation and self-discipline in pursuit of a goal)'. He was on the verge of giving up the idea of making Dodital his home, when his friend, an officer higher-up in the district administration, said '*koi scheme lagate hain* (let's make a government scheme fit your case)'. With a flourish of his hand, mimicking the bureaucrat's manner, he says 'ask your Gram Pradhan (head of the village council) to write me a letter for converting the handpump into a submersible¹⁰⁹. I will okay it.' This was carried out and he could finally lay a private pipeline right behind his house. The 'elite' water users shape and re-shape statutory rules differently. Power relations articulate water access for 'elite' by virtue of both possessing capital and political or bureaucratic connections (Zwarteveen et al., 2017).

Power may follow different trajectories as there are many ways of gaining control over water resources and also many ways in which such control is legitimised (De La Cruz & Dessen, 2021). An example is the pipeline laid by a big hotel in Dodital. It is a private pipeline appropriating water from the spring that was traditionally used by the locals. This pipeline is an older and a widely known one situated near the dam on the lake. There is a motor installed for lifting the water from the spring to the hotel a few hundred metres away. The hotel pipelines also supply water to the nearby shops and houses. 'A subtle move,' remarks a local development officer, 'to check any possibility of opposition from the locals. No one will question the indiscriminate

¹⁰⁹ A motor that is totally sealed inside a metal tube that is lowered into the ground to pump water from deeper aquifers.

appropriation of spring water by the hotel'. Expectedly, a resident admits, 'the supply is consistent and there is no shortage'. Most of the piped connections remain undocumented and are obtained through collusion of irrigation and forest departments. 'Irrigation department is not strict about these connections. They are more interested in activities from which they get better money', says a resident who owns a restaurant and rents boats. Even though there is water right now, there is yet a latent insecurity around water. In interviews, many residents expressed their apprehension about the possibility of other, newer establishments installing their own private connections from the spring. By way of analysis, a respondent, who happens to be a development practitioner, offers, 'there is water insecurity, not scarcity.' The concept of water scarcity which deals more with the biophysical aspects of water, is different water insecurity which is produced from socio-natural and often politically contentious interactions between water and people (Mehta, 2007; Zeitoun et al., 2016; Narain & Roth, 2021)

Power relations are highlighted because the spring that the hotel taps lies in the reserved forest. It should be noted that forest regulations are not impenetrable for the locals either. Although rules bar anyone other than an official of forest department from entering the forest, yet villagers collecting water from the spring for personal use are given passage. Legitimacy of this institutional arrangement is derived from tradition and continuance of a historical practice (Roth, 2009; Mosse 1997). In a conversation with two villagers, power wielded by the statutory institution was discussed. To the question, 'doesn't the forest guard restrict their passage?', the first reply revealed a confidence that locals place in their elected representative. One villager equipped, 'if he poses trouble, we'll get the guard transferred, the minister is ours'. Agency embodied in power structures - such as the political power of the minister - effectuates new institutions (Petursson & Vedeld, 2015).

Power relations and meaning systems impregnate everyday processes as explored by institutional bricolage (Cleaver, 2001); how people engage with each other and with the environment thus has profound implications for resource use (Cleaver et al., 2021; Mollinga, 2019). Resource use arrangements also highlight the social and power dynamics within a household. In *Talla*, for example, spring water had been channelised into *guls*, supplying for locals' domestic needs e.g., cleaning, tending to animals, bathing etc. Despite the *gul*, drinking water was collected directly at the spring, the source, to avoid any impurities. Until 25 years ago, when the piped water reached home, women hauled drinking water from the spring in cannisters. The burden of fetching water from the spring falls on children and women, mostly daughters-in-law. This historical practice is the site of overlap between two institutions: that of resource access and of marriage. Since women have always fetched water and fuelwood, '*lakri, paani ki suvidha*' (how far from home is the provision for wood and water) remains a dealbreaker in arranged marriages to date.

Social relations also form the basis of perpetuation of irrigation practices in the lower part of Sitapur village that are created and maintained by the community. Sitapur *Talla* is spread vertically on a slope, the upper part uses the spring water brought by *guls* for irrigation. The spring is perennial, therefore despite weak flow during summer, irrigation is still made possible. Use patterns defy any neat regimentation. There is no hard and fast rule about whether water from *guls* is to be used only for irrigation. Closest to the source is Paan Singh's house, from where the village spreads on the slope for a few hundred square metres. Irrigators take turns to channelise water into their fields. In the current arrangement Paan Singh's *baari* (turn) happens to be the last. This is not a fixed roster either. There are checks in place to avoid conflicts of interest e.g., to maintain fairness the first one on the slope (Paan Singh) does not first receive water by default. In absence of such checks, unequal relations of power result in *tu-tu main-main* (heated verbal arguments). These are not exactly

conflicts entailing violence but conflicts of interest (Bavinck et al., 2014; Narain & Singh, 2017b). 'The *baari* system', details another farmer, 'was made by our ancestors and we follow it till date'.

Irrigation gives rise to complex institutions since '...the resource base itself is complex, as it is linked to land, to system infrastructure, and to water itself...' (Gutu et al., 2014, p.4). In Sitapur for example water rights are tied with land rights. Irrigation time is allotted to each family, and the number of hours a family is allotted continue to divide corresponding to the division of land in the family. Arrangements continue to evolve across space and time, the schedule however is not revised each time a family gets divided. At present, in Paan Singh's *baari* (turn) duration he gets water for three hours during the day and three hours during the night. Later, when his sons have their own homesteads and land pieces, they will have to divide this time amongst themselves. As the land gets fragmented, there is a proportionate division in the rights to water. It follows that when a person sells his land to another, water rights are transferred too.

There also exist norms of reciprocity such as, turn or time exchange. Irrigators can switch time amongst themselves based on their social relations. These relations are embedded in everyday interactions and norms of reciprocity. If someone has irrigated his field and is left with sometime, say 30 mins or 45 mins. They can offer it to others who need it. These exclusively happen based on *bhaichara* (brotherhood), a manifestation of social capital that unfolds in everyday interactions and 'networks of reciprocity'.

6.3.4. Social identities and worldviews of bricoleurs

The complex lives lived by people and the resultant web of relationships that accords every individual multiple identities, both enable and constrain the exercise of agency and engagement with institutional arrangements surrounding water governance in Sitapur village. These arrangements are intersecting and multi-faceted, charged with diverse

sets of interest and meanings. Locals' identities also explain overlapping governance mechanisms for different natural resources (water, land, and forest). Affiliation to land, and sustenance derived from land-based activities, has historically been a constituent of the identity of locals in the Kumaon region (Hebinck et al., 2018). Most locals who identify themselves as *kaashtkar*, for example, understand their work to involve not only cultivation, but also rearing animals and foraging forest produce (Tiwari, 2008; Steven, 1993; Uhlig & Kreuzmann, 1995). Water is needed for all these land-based livelihood activities.

Social identities also explain why the forest guard gives passage to village women who're out collecting fuelwood, despite strict forest rules prohibiting their entry. The forest guard is often a local, sensitive of local practices that continue since much before there was a forest department (which is as recent as the early nineteenth century). Actors negotiate institutional spaces by exercising their multi-layered identities (Verzija & Dominguez, 2015). The forest guard does not merely operate from his 'productive identity' but also from his identity as part of the community. It is for this reason that he allows locals to access springs that fall under the reserve forest.

Agency of bricoleurs is drawn from various sources. Institutional bricolage occurs at the interface of individual agency and structures of power (Gutu et al., 2014). Cosmology or worldview of bricoleurs shapes the institutional arrangement around resource use (Ferguson, 2015; Cochran & Ray, 2008; Wutich, 2011). People's worldviews shape their beliefs about reality, about life, and about their local environment (Koltoko-Rivera, 2004; Cleaver et al., 2021; Switzer & Vedlitz, 2017). According to Kohler et al. (2019, p.1016) a community's worldview constitutes of their 'knowledge, norms, values, and beliefs' that 'guide cultural, governance and land management practices, as well as resource use and consumer behaviours'. Worldviews are found to be permeating even those that are arrangements otherwise dominated by

market forces (Boelens, 2009). Worldview also embodies agency, and the logics therein dictate their behaviour, and their interaction with resource, explaining how resource use practices are shaped.

Eco-cosmologies carry embedded agency. For example, the locals of Kumaon have for centuries believed the mountains to be one sacred entity (Kak, 2017). This is because most needs of local life in the mountains are met through forests in some measure (Friman, 2020; Paré et al., 2010; Arevalo, 2016). 'We derive food, water, clean air, fodder and fuelwood from the jungle,' summarises a member of the *van panchayat*¹¹⁰ (village forest council) of Sitapur village. Since forest cover on hills is indispensable for the well-being of springs, locals have historically conserved hilltops as forested patches by giving them religious sanctity. It is observed about Uttarakhand that '...every peak had its deity, every valley its temple, and every spring its shrine (Allen, 1982/2013, p. 16)'. The eco-cosmological perspective therefore engenders conservation of forests in those spots. An unintended consequence of this is recharge of springs on that slope.

Similarly, water resources in this region were considered living entities and were governed by strict communal norms and codes of conduct, deriving legitimacy on religious and cultural ground. The sanctity of water can well be understood by *paanidhara* (literally translates to water flow) marriage, a wedding ceremony performed next to a river or spring that was socially and legally recognised (Rawat and Shah, 2009). Since they attach religious and cultural value to natural resources, traditional institutions can have implications for

¹¹⁰ First created in 1931 under the Forest Act of 1927, *Van Panchayats* or the Village Forest Councils are decentralised administrative bodies that enjoy a degree of freedom to effectuate local rules for collection of leaf-litter and fuelwood, grazing, and other forest activities. As of 2021, there are roughly 12,000 VPs. Of these 50% are functional and the rest are adjourned because of pending elections. Official suspension notwithstanding, it is common to observe a VP operating de facto. Also, amendments to the forest act in 1976, 2001, 2005, and 2012 have progressively curtailed the powers of these forest councils. While Agarwal and Ostrom (2001) are of the notion that VPs represent an example of formally approved agreement between local forest users and state authorities, the condition of their working serves as reminder that they were a perfunctory solution put in place to control the incendiary violence by the locals between 1915 and 1921. The violence (forest fires) was the crescendo of the simmering resistance against British forest policies especially after the 1873 Forest Act that created reserved forests. Locals were strictly prohibited from using such forests, exclusively under state control, to be used for commercial purposes. This severely compromised their sustenance since they've historically depended on forest for fodder, fuelwood, minor forest produce, and for grazing livestock.

environmental protection (Muller et al., 2017; Shackleton et al., 2002). That said, local's behaviours and actions with respect to natural resources are not governed exclusively by eco-cosmological beliefs, but also by other logics that are introduced in the context due to increasing rural-urban interaction (see also Negi, 2014).

Today as one drives through the hills of Kumaon, one still spots old temples nested in forest on hilltops. More often though one spots a *baharwala's* cottage, a resort, or a barren hilltop. During the fieldwork, on enquiring about an exceptionally green mountain, I learnt that there stands a local *devi's* (goddess) temple on its peak. The entire surrounding forest bears the sanctity of the *devi*. Women do not go to that forest to forage, and local wood-dealers do not extract from it. These institutions are not watertight; the influence of rurbanisation is seeping into them. In the changing demographic makeup of Sitapur, locals are migrating out and those migrating in are outsiders, unaware of socio-ecological practices. Paying no mind to the sylvan deities and spirits, the hilltops are being rapidly cleared of woods. There is rising demand of forest resources due to increasing population (Palni et al., 1998). In absence of a comprehensive land use framework, forests of the region are threatened by the inpouring of migrants, threatening in turn the availability of water in the region.

In ordering of the natural and social world, worldviews play a significant role; they confer a degree of predictability on the otherwise highly unpredictable experience of living; they provide guidelines for how to respond to new situations. Worldviews are not obligatory; actors draw variably from them. In Sitapur village for example, some households fetch water from the spring even in times of normalcy i.e., a regular piped supply. A resident whose house is at the outer end of Sitapur *Malla*, shares,

I live where the ridge slopes, so I am closest to the spring. Its water is used in my house, both for drinking and for cattle. I have not taken a connection from the lake like the rest of the village.

His justification for turning down the piped water is more than just proximity to the spring; his worldview legitimises and prioritises consumption of the 'pure' spring water. Continuing, he adds, 'till the time I don't use my hands to drink water I don't feel satiated. I cup my palms and drink water, it's a habit'. As per his account, many in the older generation still prefer to drink spring water, even though piped water is delivered right inside their homes. Piped network glosses over the traditional ways people relate to water as victual, operating on a superficial understanding of water as resource. An assumption implicit in development interventions is that household without pipelines are necessarily water poor (Thakur et al., 2017). Kovács et al. (2019) show through their case study of six Lower Himalayan small towns that rural households continue prefer spring water, and do not perceive absence of piped supply as an unbearable gap or a special disadvantage.

In-migrants however definitely see piped water as indispensable. Their contact with water is also transactional. In my conversation with an immigrant couple when the wife expressed a desire to 'at least go and see where the source is,' the husband responded with some exasperation, 'why go off into bushes searching for what the contractor has guaranteed us at our doorstep!' The contractors are almost always locals. They arrange for round-the-clock water supply to new cottages for in-migrants through pipelines installed at springs. It raises questions about holding water as sacred. While locals display a greater attachment with water, there is little indication of treating water as sacred or as a living entity in practice.

6.4. Conclusion

Institutional arrangements when seen from the lens of bricolage show a patchwork, a piecing together of old and new and handy, that continually evolves by accommodating changes. These changes arise variously from rurbanisation (in- and out-migration, land-use change, diversification of occupational pattern), state policy (in different spheres such as education and livestock) at regional and national levels, and climate change and variability. Moreover, salience of geographical factors cannot be overstated in the governance of water. The hydrogeology of the region, sensitive to anthropogenic pressures, continues to shape the practices around its access and use. Other factors are the social identities of actors, and the embedded social and power relations. Newly institutionalised norms show elements of traditional ways of thinking, worldview, and agency of actors embedded in routinised practices. The dynamic process of institutional bricolage explains the plastic nature of institutional functioning, and the variable levels of its visibility.

Processes of rurbanisation complicate water governance in Sitapur village. With the coming in of *baharwale* (as the locals refer the in-migrants), the new forms of resource governance that emerge, often conflict and contest with traditional practices. For instance, the springs from which local residents fetched water now comes under greater pressure to meet the requirements of new claimants; resulting in contesting and competing uses of water (Singh & Narain, 2021; Bartels et al., 2020; Butsch et al., 2021). The change in claimants has triggered changes in the way water is accessed and appropriated in and around Dodital. Where locals use the water for domestic, drinking, and irrigation purposes, resort and hotels use water for commercial purpose, relying mostly on private piped connection from a spring, private borewells, and water tankers. Such competition, resulting from economic development is compounded by climate-change (Bastakoti et al., 2010; Manzungu et al., 2009), such as drying up of spring or its

seasonally contracting supply. Patchwork adaptability is observed as locals negotiate water insecurity through a combination of sources (Drew et al., 2021).

Further, land-use change in the wake of rurbanisation in Sitapur village, disturbs the hydrology, impacting spring-shed, thus leading to remoulding of practices and norms of water use and access. For examples in Dodital, presence of scenic lakes has precipitated tourism which in turn has led to change in water use. Earlier the lakes were used by the locals for everyday uses such as washing and bathing. Now, the banks of the lakes (of Dodital) have emerged as commercial areas, featuring promenades lined with vendors of food and of adventure sport activities. There has been a corresponding increase in the involvement of the Irrigation department (statutory institution) with all commercial activities in connection to the lake. Thus, the thickness of institutional arrangement around water use is increasing; statutory institutions are playing a part and but also bricoleurs are exercising their agency (Cleaver & De Koning, 2015; Amin and Thrift, 1994; 1995), as practices around water access and use are emerging (structured) and re-emerging (restructured).

For the most part, social dynamics of underlying natural resource (water) governance have been studied through organisation structures, compliance mechanisms and regulatory processes that enabled policy makers to craft institutions that are efficient and effective (Ostrom, 2014; Fukuyama, 2013; Armitage et al., 2019; Lemos & Agrawal 2006). The critical institutional perspective adopted in this thesis departs from the concern of designing institutions, focusing instead on how they work in a rurban space.

Chapter 7 Conclusion

7.1. Introduction

This thesis is about rurban and its water. It productively combines the concept of rurban and institutional bricolage, using a case study method. Five substantive chapters (2,3,4,5,6) of the thesis have examined the case of Haldwani to rework our understanding of rurban and water governance therein. Situated water use practices are explored to show how rurban is lived and felt, which guide how rurban is understood and spoken about. It argues that in context of the small city of Haldwani, how rurbanisation occurs and the kind of rurban it begets, bears a corresponding rurban water governance.

This chapter distils the findings and implications of the thesis. A brief evaluation is made of the concept of rurban used in this thesis as against those that could have been applied to study rurban water. The reviewed rurban literature's dedicated focus on the urban comes in the way of treating rural as little more than a residual category – that which is yet to attain the status of urban (Majumdar, 2020; Bhagat, 2005). The modality of rurban is treated much the same way; it is of interest for the promise of becoming urban rather than for its unique expression. Since an empirical study of the rurban in a small city of the global south could not harmonise with the existing concept of rurban, it became imperative to conceptualise rurban anew. A concept is advanced based on the case study instead of 'exceptionalising' the small city of the global south, which would exclude such cities from the theoretical debates, and prevent expansion of the concept of rurban itself (Sawyer, 2014). This case study is an attempt also in revising the epistemologies of knowledge production regarding rurban i.e., how do we come to know of rurban and how we speak about it, and why it matters.

Decentering geographical knowledge production is part and parcel of this field enquiry. This new concept is not proposed to supplant the existing ones, but to advance the toolkit available to rural scholars. An important conclusion drawn out in this thesis is that small cities of the global south may have unique trajectories of ruralisation that can be revealed through *longue durée* of history. A perusal of path dependence in regional resource use practices similarly enables a situated understanding of ruralisation.

7.2. Findings and Implications

So far identified as congruous with the perimeters of the city, rural through this thesis is unmoored from the physical periphery of the city. The first theoretical advancement this thesis makes is that rural may exist much further away from the juridical boundaries of the city. Consequently, rural's character derives from the strength of resource linkages with the city and not from physical proximity to it, which does not guarantee strong linkages.

This brings us to the second advancement in the understanding of rural which is that presence of (r)rural way of life or (r)ruralism alone does not make a space rural. Structural changes through rural-urban fusion, i.e., ruralisation, must be observed in a space for it to be classified as rural. Ruralisation shows the constant becoming of a rural space, capturing multidimensional changes. It is to be noted that it is not entirely possible to unstitch rural(isation) from rural(ism); when the former is in progress the latter will be conspicuous as a change in the way of life. This thesis acknowledges that rural(ism) and rural(isation) are intertwined, it still advocates the latter as the entry point for exploring a given rural space. While ruralism i.e., the (r)rural way of life in rural of smaller Indian cities and in rural of metropolises may exhibit similar features e.g., a move away from the rural for better education or employment, rural serving

as supply ground for the urban etc., yet how rurbanisation occurs in smaller cities may have different trajectories contingent upon historical function of the place, its physical geography or other factors. Historicising the rurbanisation process in context of a small city can reveal grounds other than neoliberalisation, thus impacting the way small cities are seen in both policy and academics (See also Benjamin, 2017). Rurbanisation is often historically embedded and has regional particularities that resist being explained away as a result merely of one idea or process, such as industrialization or modernity.

The three processes of rurbanisation thus help sharpen the conceptualisation of rurban. The processes do not claim to give an exhaustive roadmap for studying rurbanisation. Other processes may be uncovered through a longer and more in-depth engagement. The processes also do not statistically generalise to all rurban spaces. The findings of this case study can however be analytically generalised. They may be treated as a departure point for understanding rurban in other cases in the global south.

A third contribution of this study challenges the urban destiny of a rurban space. That rurban may or may not become rurban has been explained by evaluating the various criteria of classification of places as urban. While persisting with the administrative status of rural and yet incorporating myriad urban infrastructure and amenities for a select group, Sitapur exhibits a rural-urban nexus, questioning the relatively simplistic rural-urban continuum. Sitapur village challenges the existing understanding of rurban by refusing to act as mere supply ground for the urban; it makes its own demands of goods, services and other resources on Haldwani. Exploration of the active participation of rural residents in the rural-urban fusion moreover instates agency in the rurban, which is shown as doing its own thinking.

This leads to the fourth contribution of this thesis, which is that since multiaxial logics drive the making of a rurban space therefore

resource(water) governance in rural spaces too has to be understood as deriving from the interaction of different factors; topographical, socio-political, economic, and climatic. The lens of institutional bricolage befits the study of a dynamic water governance in a constantly changing context. It explains how actors consciously and unconsciously re-imagine and re-create water institutions. Reviewing resource use practices historically, further enriched this understanding. It was found that actors combine old and new practices through a continually iterative process that responds to socio-environmental shifts that characterise a rural space. The findings have implications for how rural research is conducted. If the agency of bricoleurs (resource users in this case) is central to space-making when it comes to rural, a top-down approach that centerstages statutory institutions may not depict a true picture of rural-urban fusion underway. Here a word of caution is in order to prevent thinking of rural as an informal space. The findings give reason to move away from the dualist way of thinking (formal-informal, or statutory-nonstatutory) towards the transverse logics (Caldeira, 2017) that play up how rural space unsettle and cut across established logics.

7.3. Dialogue with policy

Broad brush policies continue to be employed that skate over context-specific nuances of the phenomenon of ruralisation. A recent example from India is the National Rural Mission. The policy has been on ground since 2016. An analysis of its impacts and outputs is outside of the scope of this thesis, but an incongruence between its formulative tenets and the findings of this research, in other words its content analysis may serve to evaluate if it is designed appropriately for accomplishing its objectives (Narain, 2018).

The National Rural Mission (NRuM) envisions 'development of a cluster of villages that preserve and nurture the essence of rural

community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature...'. Rural 'essence' is vague and open to wide interpretation. Does it mean rural values? Or rural way of life? There is little clarity on how does the state plan to preserve this ethereal feature. Such romance with the rural is challenged by the empirical data of the present study. Besides, the aspirations of rural residents do not deem preserving rural essence as a priority. Also, it may not be possible to exert control over the process of (r)urbanisation once it has been induced in a setting. This calls into question the resultant place as being made urban only up to a point (till the rural soul is intact) and no further.

These rural clusters will comprise of 'geographically contiguous villages' and 'as far as practicable... would follow administrative convergence units of *Gram Panchayats* (village councils) and shall be within a single block/*tehsil*¹¹¹ for administrative convenience' (NRuM Framework of Implementation, 2015 p. 3). The mission thus adheres to a place-based understanding of rural, guided by census-statistics-based rural-urban categorisation. The findings of this thesis prove that such an understanding misrepresents the reality due to the arbitrary and sometimes politically motivated classification of places as rural or urban. Physically contiguous settlements that bear rural classification may not necessarily have linkages among them. Rural settlements that are strongly related might not correspond to administrative boundaries of block or *tehsil*.

The mission aspires to bridge the 'rural-urban divide-viz: economic, technological and those related to facilities and services' (NRuM Framework of Implementation, 2015 p. 3-4). It proposes doing so by encouraging acquisition of skills for engaging in activities other than tilling and then providing 'post placement support, migration support

¹¹¹ Administrative division unit below the district, block is used for development purposes and tehsil for revenue purposes.

and alumni network to enable farm to factory transition' (*ibid*). The heterogenous livelihoods portfolio of pluriactive rural residents doesn't correspond to such a normative framework for employment. Second, it is to be asked if urban centres in India can sustain this flow, and for how long. Studies also flag the deficit of necessary infrastructure in India cities (Saroj et al, 2020; Wankhade, 2015; Nandi & Gamkhar, 2013; Jainer & Yadav, 2020). More importantly however this conceptualization of rural as a product of willful engineering is at variance with the rural that already exists on ground. Also, the understanding of rural-urban divide needs to be nuanced if it has to reflect the rapid, multi-dimensional fusion of rural and urban already taking place in rural spaces.

Following a top-down approach the mission gives the centre and State governments a heavy hand, allowing for local political motives to interfere with a development intervention. The classification of urban and rural is ultimately at the discretion of the State government that decides which areas are to be projected as rural. The leverage that State governments exercise is implicit in the mission's dependence on the census statistics of the census of India which guides the selection of villages that receive benefit under the mission. Some of the selection parameters are decadal growth in rural population, in non-farm work force participation, and percentage enrolment of girls in secondary schools.

Provisioning of services in rural to make it rural, not only refuses to acknowledge the ruralisation already underway, but also assumes that rural is a passive recipient, awaiting the slew of state measures for its development. Proposals for development of rural must take account of existing rural-urban fusion underway, because the newly provisioned physical or social infrastructure and externally induced change in employment and migration pattern, will articulate with ongoing ruralisation processes. Policy narrative needs to be

cognizant of such articulation which can be explained through the concept of institutional bricolage.

Water governance in rural areas likewise is waiting for its turn to be recognized in policy narrative. The polycentric institutions that govern water in a rural space are not always admitted in state schemes. A recent example is the Jal Jeevan Mission¹¹², which since its inception in 2019 has held supplying piped water connection to every rural household as its objective. Assuming a clean slate before the advent of pipes or viewing fetching water from outside the home as pitiable, may oversimplify the messy reality. Infrastructural solutions intended to improve access and seen as signaling advancement e.g., the overhead water tanks (being constructed under NuRM) or piped water supply, need also to be studied for how users interact with them, and if they reproduce existing inequalities and power dynamics (Rusca & Schwartz, 2014). The new policy is demand driven, as distinct from the previously criticised supply-side approach, yet there remains incongruence between how locals perceive the quality (including taste) of piped water, and state's emphasis on convenience and economic calculation.

In the case of Sitapur for example pipelines began being laid under a project (between 2006-2015) financed by the World Bank called Uttarakhand Rural Water Supply and Sanitation Project. Piped water supply is rationed which is why locals continue to maintain and rely on springs. Also piped water is erratic, such as in summer times, breakage, or routine maintenance. The springs continue to be in use also because locals ascribe purity to spring water. The elderly especially, maintain that thirst cannot be quenched from any other water. Women and children fetch water from these sources that are often several hundred meters from their homes. The walk includes

¹¹² Jal Jeevan Mission (JJM) is an initiative of Government of India that aims to provision of 55litres of water per capita per day through Functional House Tap Connections (FHTCs) by 2024. For Uttarakhand and other Himalayan States, the sub mission under JJM called *Har Ghar Jal* will be operation. It will be funded by the central and State governments in the ratio 90:10. The central component comprises of some proportion of loan from multi-lateral agencies.

going downhill and returning uphill, and more than one round is needed to meet the drinking water need. Locals therefore fulfil their water needs through a mix of practices, which is altogether incongruent with the vision of donor- and state-funded infrastructure projects i.e., outfitting Lower Himalayan households with piped supply so as to eliminate their apparent water poverty. Analysing institutions therefore despite a focus on the micro processes, gives the opportunity to study the interface of different scales – local, State (province), national, and international - in natural resource governance. As a corollary it helps ascertain, within a context, which scale can water be more gainfully assessed and managed at (Hering et al., 2015).

The institutions around resource (water) use and appropriation are 'thick'. Institutional bricolage involves dulling the edges of the newly introduced institutions, to make them better suit the livelihood priorities of the locals. Moreover, worldview of bricoleurs shapes the institutional arrangement around resource use (Ferguson, 2015; Cochran & Ray, 2008; Wutich, 2011). The belief that one mustn't refuse anyone water, for example, carries the gravitas of a millennia old culture, and exerts its force even on the statutory rules of forest (spring) access. In Sitapur locals are allowed by the forest guard (who is mostly a local himself) to go into the forest and collect water at the spring. The statutory and traditional therefore do not stand aloof as above or below in a hierarchy but leak and merge into one another. Institutional bricolage takes into account a plurality of institutions, admitting that two or more institutions may exist for the same set of activity, that derive legitimacy from distinct sources. Plural institutions also explain that there are existing institutions on the ground, and a failure to acknowledge them may result in a dissonance between the intention and outcome of a policy.

The growth narrative continues to be tilted in the favour of urban, despite the ambiguity in definition and classification of what is urban. Rurban spaces, those which are rapidly evolving through fusion of rural

and urban, and are not necessarily bound to become urban, continue to be missing from the rhetoric of both urban and rural policy. A recent report by India's state think tank on 'Reforms in Urban Planning Capacity in India' (NITI Aayog, 2021) echoes the dichotomy in planning by dedicating separate sections to urban and rural planning. In this oversight, the processes of natural resource governance characteristic of rural areas are also elided. This thesis aims to contribute to a better understanding of what rural is and how water governance functions within it, thus showing the way towards a water governance that is socially effective.

7.4. Evaluation of Approach Taken

The 'peripheral turn' in urban theory is simultaneously exciting and perilous (Ren, 2021). Exciting for perhaps a more inclusive urbanisation will emerge, as scientific attention focuses away from the core, perilous for phenomena occurring outside of the urban centre might unawares get subsumed in urbanisation. This thesis deals with one such phenomenon – ruralisation. This research adds to the growing scholarship of rural geography that acknowledges the context specific nuances of rural-urban fusion occurring simultaneously and uniquely in hundreds of rural sites in the developing world.

Critical-academic knowledge produced in this work has both potential and limits. The reflexive methodology used admits of the contextual nature of the knowledge produced. The findings will have to be applied to other similar cases to test for theoretical resonance with rural phenomenon in other southern small cities. Moreover, it is acknowledged that conception of rural is subject to change because of the ever-evolving nature of the rural space. In the Indian context that is witnessing rural-urban fusion such an approach to studying rural may have critical implications for policy making; a 'transforming' country challenges the sectoral approach to development (Berdegué et al., 2014) such as proposed by World Bank

(1982) in its *World Development Report* suggesting addressal of rural poverty exclusively through agricultural interventions in developing countries.

This study re-emphasises that a historical difference prevails in making of urban, the processes that produce it influence the lived experience of those who inhabit it. In looking at history, an emphasis is laid on the region and not just the small city in whose context rural is being studied. This allows uncovering mobilisations that connect the urban with the rural. The case of Haldwani for example shows that accretion - assimilating its rural within the juridical city boundary - is not the only model for an Indian city to grow. Rural may also contribute in the growth of the city by generating interdependencies of resources and services - the rural of the city can help grow the city without being included in city limits. Rural is essential to the growth of urban and cannot keep on being ignored or be treated as rural.

Critical institutionalism also advocates a widening of focus along with deepening it. In terms of rural resource governance, the extant norms, practices, and codes of conduct articulate with statutory rules and regulations producing a dynamic and plural institutional space, unpacking the functioning and evolution of which requires longitudinal studies (Cleaver & De Koning, 2015). For a comprehensive view of water governance institutional bricolage lens has been applied to understand water practices enmeshed in the everyday. The study has implicit in it, by virtue of choosing this approach, the idea that designing and imposing institutions onto a context do not assure desired development objectives (Cleaver, 2012). Any one institutional solution may not represent every stakeholder. Other contextual factors upon which any new institution's success depends are historical processes and worldview of people. Governance of water is thus socially embedded, and social and power relations mediate access to it. That said, facilitating institutional bricolage to secure change i.e., its translation into policy is not a straightforward process that may yield

predictable results, because of the complex interweaving of different practices and stakeholders.

In the same vein, the focus on power that is inevitably part of doing critical institutionalism is just as inevitably decentered because a multiplicity of processes being studied (Cleaver, 2012). Instead of being studied as related to particular stakeholders, power is observed in domains and practices that overlap and are related to a plurality of actors. Decision-making is based on not only state governance but in beliefs, ideologies, norms and other invisible particularities that institutional analyses reveal. Such multifarious interactions require a long-term study, even outside of the given institutional setting, which makes drawing boundaries for the institutional analysis challenging.

7.5. Way Forward

The challenge for future rurban research lies in the presenting a counter-narrative to the prophecy that the future of the world is urban. Theoretical sophistication as well as empirical depth will have to be rallied to understand other modalities, such as rurban. In doing so foregrounding the everyday can be tremendously useful (Rusca & Cleaver, 2022). Rurban as proposed in this thesis may be studied in different small cities of the global south. The Haldwani example directs attention to the fact that rapid rurbanisation in the global south is highly context specific. For takeaways or generalisations to emerge from this theory its applicability and rigor will have to be tested in different settings.

Also, other geographical enquiries in the rurban may focus on a different resource to foreground another panoply of practices, historical continuities among which will illuminate how rurban is shaped. It is possible, taking the findings presented here as base, to ask more unsettling questions of rurban water governance. An important question that this study begets is: How can water policy in Haldwani

benefit from a study of the ecological and anthropological changes occurring upstream of Gaula? Recently Wescoat et al. (2021) see the multitude of water policies in North India from a macrohistorical geographic point of view, to explain the eclectic nature of present day water policies and to discuss the unsettling question of whether water should be supplied by the state. In such studies in the future, the concept of institutional bricolage will serve to examine if and how piecing, blending, and layering of different resource governing institutions allows them to endure, despite changes over time.

An incidental finding of this study are vertical (altitudinal) linkages that Himalayan cities exhibit with cities nearer to plains. It may offer a deep understanding of the current (r)urbanization processes in Himalayan settlements if they are studied through linkages with piedmont cities, in Bhabhar and Tarai.

Future research must dialogue with policy to ask whether in the way rurban policy's objectives are framed there are certain actors or sections of society whose interests dominate while others' are excluded or underrepresented (Keeley & Scoones, 2003). Also, rurban is a changing space, it is important to examine if the policy has the flexibility to respond to the changes. Rurban area studied for this research is changing even as this thesis comes to a close. Since rurbanisation is a continuous process, it requires long-term multi-dimensional studies that are mostly out of the scope of a PhD, and of most externally funded projects one may obtain thereafter. The same site can therefore be studied after a gap of few years to see the direction the changes took.

In the context of India only a handful of such studies have been undertaken for the methodological challenges they pose. From the perspective of resource governance (understanding the distribution, allocation access to, appropriation of resource) and public policy (understanding who or what drives policy processes) such studies

would play a crucial role in explaining how urban communities organise themselves in the face of rapid change (how old norms and practices are replaced by new ones or how they evolve), and also aid in building positive developmental pathways by throwing light on constraints and challenges of public policy processes.

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Appendix

Interview Schedules

Questions asked in Haldwani

- of residents

- How long have you been living in Haldwani?
- What brought you here?
- Could you share something about the migration flow in Uttarakhand?
- What is the history of Haldwani and the neighbouring region?
- What do you think drives the expansion of this city?
- How is it connected to the rural places surrounding it?
- Is the city important for the State of Uttarakhand? If so, could you explain how? Are there other places of similar importance?
- What is the main source of water here?
- How do you meet your water needs?
- For how long have you been sourcing water in the said manner?
- How and from where was water sourced earlier?
- Is the supply consistent? If no, how do you manage?
- Does it ever feel that you've had your fill?
- Who manages water in the house?
- What do you understand of an urban and rural space?

Follow up interviews:

- Could you tell me if certain castes or ethnicities dominate certain professions and activities in Haldwani?
- Does it depend on the geographical area?
- How many *paraos* are there in the city? What were they used for earlier and what are they used for now? And why so?
- What is the difference in the markets or *bazaars* then and now?

- Why did the seasonal migration stop?

- of state Officials

- Does the state supply water?
- Where does state source water?
- What percentage of total water is drawn from the different sources?
- On what bases is the water allocated and distributed?
- Are there any regulations on water use?
- Could you tell me something about the upcoming Bhimrani dam?
- What is its purpose with respect to Haldwani?
- Is there a water shortage? If yes, how has the state been addressing it?
- I have seen many a narrow water channels around the city? When were they constructed and to for what purpose?

Questions asked of residents in Rurban Haldwani (Sitapur village and other prospective sites)

- What is the history of the village and the neighbouring region?
- What is the social composition of the village?
- What changes have you observed in the region? Are they consequential?
- How have you coped with or adapted to them?
- How do you currently meet your water needs?

🗺️ How do you access drinking water?

🗺️ From where is it sourced? Who maintains the source? Can you freely access the source? Does this access vary across the year? If yes, how do you manage in those times?

🗺️ Are you able to meet your requirement?

🗺️ Is the supply consistent?

- ✚ Who fetches or fills up water in the house?
Any reason for that?
- ✚ For how long have you been following this practice?
- ✚ What was practiced earlier and how did you access then?
- ✚ Is the water for household chores and drinking sourced from the same source? If not, what are the respective sources?
- ✚ Where do you source water for irrigation?
- ✚ What crops do you grow? How much water do they require?
- ✚ What crops did you grow earlier?
- ✚ What is the reason for changing the crop choice?
- ✚ Is water needed for any other purpose?
- ✚ What can you tell me about the Bhimrani dam?
- ✚ Will it affect you? If yes, how?

Mutual relevance of this region and Halwani

- How long have you been going to Haldwani and for what purpose?
- Where is the closest medical centre?
- From where do you get material for construction?
- Where is the nearest Bank?
- Where do your children go for education?

Questions asked of non-local residents (in-migrants, café and resort owners, estate managers and the likes) in Sitapur:

- What brought you here and when?
- What do you think brings people to Sitapur?

- How do you source electricity and other services?
- How do you meet your water needs? What is the source?
- Have you always met your needs this way? If not, how did you manage earlier?
- Has there been a problem with the locals regarding water? If yes, what went down?