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DWELLING AND CIRCULATING IN A CONTEXT OF RISKS: (IM)MOBILITIES AND ENVIRONMENTAL HAZARDS IN TAJIKISTAN'S PAMIR MOUNTAINS

A thesis submitted to the Institute of Geography
of the University of Neuchâtel
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Suzy Blondin

Under the supervision of Prof. Étienne Piguet

Doctoral Committee members:
Dr. Sultonbek Aksakolov, Dr Ingrid Boas, Dr Till Mostowlansky and Dr Caroline Zickgraf.

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UNIVERSITÉ DE
NEUCHÂTEL

Faculté des Lettres et Sciences Humaines
Espace Tilo-Frey 1
CH - 2000 Neuchâtel
Tél : +41 (0)32 718 17 00
Fax : +41 (0)32 718 17 71
secretariat.lettres@unine.ch

IMPRIMATUR

La Faculté des lettres et sciences humaines de l'Université de Neuchâtel, sur les rapports de M. Etienne Piguet, directeur de thèse, professeur, Université de Neuchâtel ; Dr. Sultonbek Aksakolov, Chair - Department of Social Sciences and Humanities, School of Arts and Sciences, University of Central Asia - Khorog, Tajikistan ; Prof. Ingrid Boas, Associate Professor, Environmental Policy Group, Wageningen University - The Netherlands ; Dr Till Mostowlansky, Ambizione Research Fellow in Anthropology and Sociology, The Graduate Institute - Geneva ; Dr. Caroline Zickgraf, Deputy Director - The Hugo Observatory, Department of Geography, Faculty of Sciences, Université de Liège – Belgique autorise l'impression de la thèse présentée par Mme Suzy Blondin en laissant à l'autrice la responsabilité des opinions énoncées.

Neuchâtel, le 24 août 2021

Le doyen
Matthieu Honegger

UNIVERSITÉ DE
NEUCHÂTEL

Faculté des Lettres et Sciences Humaines
Espace Tilo-Frey 1
CH - 2000 Neuchâtel
Tél : +41 (0)32 718 17 00
Fax : +41 (0)32 718 17 71
secretariat.lettres@unine.ch

Neuchâtel, le 24 août 2021

ATTESTATION

Le soussigné, doyen de la Faculté des lettres et sciences humaines de l'Université de Neuchâtel, certifie que

Madame Suzy Blondin

a soutenu avec succès, le 24 août 2021, sa thèse de doctorat intitulée : **« Dwelling and circulating in a context of risks : (im)mobilities and environmental hazards in Tajikistan's Pamir mountains »**

Le jury a attribué à la thèse présentée la mention : summa cum laude

Directeur de thèse : M. Etienne Piguet, professeur, Université de Neuchâtel

Rapporteur-e-s : Dr. Sultonbek Aksakolov, Chair - Department of Social Sciences and Humanities, School of Arts and Sciences, University of Central Asia - Khorog, Tajikistan

Prof. Ingrid Boas, Associate Professor, Environmental Policy Group, Wageningen University - The Netherlands

Dr Till Mostowlansky, Ambizione Research Fellow in Anthropology and Sociology, The Graduate Institute - Geneva

Dr. Caroline Zickgraf, Deputy Director - The Hugo Observatory, Department of Geography, Faculty of Sciences, Université de Liège - Belgique

Le doyen
Matthieu Honegger

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ABSTRACT

This doctoral research in human geography examines the relation between disaster risks and human (im)mobilities through a case study in Tajikistan's Pamir Mountains. This work constitutes a longitudinal ethnography of the residents of the Bartang Valley, who live under the threat of environmental hazards such as floods, avalanches, and rockslides. Qualitative methods were implemented, including observations, interviews, mobile methods, auto-ethnography, and audiovisual methods. The research touches upon issues of post-Soviet transition, livelihood sustainability, environmental hazards, and risk perceptions, and gives insight into everyday activities and spirituality in the Bartang Valley. The work is structured around two main research topics: involuntary immobility induced by physical inaccessibility and voluntary immobility enhanced by place attachment. Hazards impact the state of roads and vehicles and impair rural-urban mobilities, which are essential to the livelihoods of the Bartangi people. The vulnerability of these livelihoods—and of the mobility infrastructure—to environmental hazards is increased by the general level of economic poverty in the Valley. Frequent mobility disruptions reduce the accessibility of the Valley and can lead to involuntary immobility. Despite these risks and low accessibility, place attachment is deep among residents who generally express strong bonds with *their* valley. Many remain in their villages or return after years spent working in other parts of Tajikistan or in Russia. Most of those who are displaced by destructive hazards choose to stay in the Valley, relocating within or not far from their village. Place attachment, immobility, and adaptive capacity are envisioned as mutually reinforcing phenomena, and the mobility-immobility and voluntary-involuntary continuums are explored in their dynamic and fluctuating dimensions.

Taking accessibility, mobility disruptions, and place attachment as core research topics has led to a rather hybrid work at the intersection between studies on the environment-migration nexus, on rural-urban, daily, or circular mobilities, and more classical ethnographic works on rural mountainous communities. At the theoretical level, this work argues for a better integration of concepts of the "mobilities turn" into research on environmental mobilities in order to encompass a wider range of mobility patterns on multiple spatial and time scales, to examine (im)mobility aspirations and potentials, to explore infrastructure and materialities, and to include immobility. Through an analysis of individual place attachment and risk perception, this work also reaffirms the importance of cultural geography for the field of environmental mobilities.

Keywords: mobility, immobility, environmental risks, place attachment, accessibility, motility, Pamirs, Tajikistan

RÉSUMÉ

Cette recherche doctorale en géographie humaine examine la relation entre les risques environnementaux et les (im)mobilités humaines à travers le cas des montagnes du Pamir au Tadjikistan. Ce travail constitue une ethnographie longitudinale des résident.e.s de la Vallée du Bartang, qui vivent sous la menace d'aléas environnementaux tels qu'inondations, avalanches, et chutes de pierres. Des méthodes qualitatives ont été utilisées, notamment des observations, entretiens, méthodes mobiles, auto-ethnographie et méthodes audio-visuelles. La recherche aborde les questions de la transition post-soviétique, de la durabilité des modes de vie, des aléas environnementaux et de la perception de risques, et donne un aperçu des activités quotidiennes et de la spiritualité dans la vallée du Bartang. Le travail est structuré autour de deux grands axes de recherche : l'immobilité involontaire provoquée par l'inaccessibilité physique et l'immobilité volontaire encouragée par l'attachement au territoire. Les aléas environnementaux impactent l'état des routes et des véhicules et perturbent les mobilités entres espaces ruraux et urbains, qui sont essentielles pour les résident.e.s. La vulnérabilité des conditions de vie et des infrastructures de la mobilité face aux aléas environnementaux est renforcée par le niveau de pauvreté dans la vallée. Les perturbations fréquentes de la mobilité réduisent l'accessibilité de la vallée et peuvent induire une immobilité involontaire. En dépit des risques et de la faible accessibilité, l'attachement au territoire est profond chez les résident.e.s qui, de façon générale, expriment des liens forts avec *leur* vallée. Beaucoup restent dans leur village ou rentrent après plusieurs années passées à travailler dans d'autres régions du Tadjikistan ou en Russie. De nombreuses familles qui ont été déplacées par des évènements climatiques choisissent de rester dans la vallée, se réinstallant dans leur village ou à proximité de celui-ci. L'attachement au territoire, l'immobilité et la capacité d'adaptation sont envisagées comme des phénomènes se renforçant mutuellement ; les continuums entre mobilité et immobilité et entre (im)mobilité volontaire et involontaire sont explorés dans leurs aspects dynamiques et fluctuants.

Prendre l'accessibilité, les empêchements de circulation, et l'attachement au territoire comme principales thématiques de recherche a mené à un travail hybride, à l'intersection d'études sur les liens entre migrations et environnement, sur les mobilités rurales, quotidiennes ou circulaires, et de travaux ethnographiques plus classiques sur des communautés rurales montagnardes. Au niveau théorique, le travail plaide pour une meilleure intégration des concepts du *mobilities turn* dans la recherche sur les mobilités environnementales, afin d'inclure une gamme plus variée de types de mobilités se situant à des échelles spatiales et

temporelles différentes, de prendre en compte les aspirations et potentiels en lien avec la mobilité, d'explorer les infrastructures et aspects matériels, et d'intégrer l'immobilité. À travers une analyse des liens au territoire et de la perception des risques qu'ont les individus, ce travail réaffirme l'importance de la géographie culturelle pour le champ des (im)mobilités environnementales.

Mots-clef: mobilité, immobilité, risques environnementaux, attachement au territoire, accessibilité, motilité, Pamir, Tadjikistan

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1. INTRODUCTION

Travellers arriving for the first time in the steep valleys of Tajikistan's Pamir Mountains may wonder how residents can live in such remote places in the age of globalization, speed, and hypermobility. The trip from Dushanbe, the nation's capital, to Khorog—the administrative centre of Viloyati Muxtori Kuhistoni Badakhshon (VMKB),[1] a territory surrounded by the Pamirs—takes about 15 hours by car on a bumpy, pothole-ridden road exposed to landslides, rockslides, and floods. The state of road maintenance is a common topic in the autonomous region where some 230,000 inhabitants live. Flights between Dushanbe and Khorog—which were erratic to begin with—were stopped entirely in 2017, further isolating the province. This physical remoteness marginalises the population, with economic, social, and political consequences. Paradoxically, mobilities are crucial for the region, which depends on imported products and financial remittances. Despite the isolating topography and remoteness, residents of the VMKB remain extensively connected to networks both within neighbouring regions and internationally, for instance, with Russia.

This dissertation examines what it means to currently live in this context, and how residents practise and value different forms of (im)mobilities, by exploring the striking physical inaccessibility of the Bartang Valley. The initial idea behind this study originates from research trips to the VMKB between 2013 and 2015 for a Master's thesis on the Afghan-Tajikistan border. At that time, I was impressed by how often my interlocutors in the "field" would talk about road conditions and mobility issues. In the winter of 2015, I found myself stuck in a small village in the VKMB with fellow local travellers for a week due to avalanches blocking the road on both sides. This experience made me acutely conscious of the numerous mobility challenges in the region, and is the reason I have come to understand the substantive value of a doctoral research on the practicalities of (im)mobilities in this remote area—in particular, how this pertains to socioeconomic issues.

Environmental hazards are paramount among the factors explaining why mobility is particularly challenging in the VMKB. The province is almost entirely encompassed by mountains, whose altitudes reach up to 7,495 meters above sea level with the Ismoil Somoni Peak. This territory experiences frequent earthquakes, landslides, and rockslides, as well as floods and mudflows in summer and avalanches during winter. These hazards pose a threat to humans, animals, and infrastructure, including roads. This research offers a cultural, social, and political perspective on the effects of environmental variability on human (im)mobility. It explores how mobility disruptions may result simultaneously from environmental hazards, lack of road maintenance, lack of public transportation, or high costs of mobility.

Mobility issues reinforce and are reinforced by the socioeconomic vulnerabilities of the region. The Bartang Valley has suffered greatly from the collapse of the USSR and the subsequent degradation of healthcare, administrative, and transportation infrastructure. The end of the Soviet provisioning system, which allowed residents to access products imported from

[1] Literally, "Autonomous Province of Mountainous Badakhshon".

different parts of the Union, has been particularly harsh for the remote region. These difficulties were further reinforced by the Tajik Civil War (1992–1997), which isolated the VMKB from the rest of Tajikistan. The tumultuous decade following the collapse of the USSR has had profound impacts on Tajikistan. Although the national poverty level has generally decreased since the early 2000s, non-monetary poverty indicators in rural areas remain high. For example, food insecurity, energy insecurity, and access to safe drinking water are paramount issues in many areas (World Bank 2019; World Bank 2020). Such vulnerabilities fuel labour migration. According to the International Organization for Migration, 520,000 citizens of Tajikistan (out of a population of nine million) were working abroad in 2016, mostly in Russia.[2] Personal remittances received from migrants abroad accounted for 29% of Tajikistan's total GDP in 2018.[3] The prevalence of out-migration provokes multiple social issues in the country, as migrants usually migrate alone, leaving family behind. The absence of working-age men and dependence on remittances are currently important features of earning a livelihood in the Bartang Valley.

The remoteness of the Bartang Valley is often used to explain its general level of poverty. However, its levels of remoteness in connection with the maintenance of national or international networks have not received much scholarly attention. Khorog is far from Dushanbe, but the most rural areas of the VMKB—such as the Bartang Valley—are also far from Khorog, which serves as the administrative and commercial centre of the province. Exploring remoteness encouraged me to examine distance and travel times concurrently with mobility options, motorisation rates and the maintenance of local roads. These elements all shape the local mobility regime. I have also given emphasis to individual and embodied experiences of remoteness and mobilities through a focus on personal mobility skills, preferences and socialities on the move. However, remoteness cannot only be examined through material aspects and people's abilities to move. It is much more than that. Residents of the Bartang Valley, for instance, refer to their region as a unique and sheltering place. Remoteness may hamper some things but preserve others, to which populations are attached.

Addressing the issue of voluntary immobility, or the desire of residents to remain, led to an exploration of their attachment to their dwelling place. Why don't people leave despite severe vulnerabilities? Which features of their region do residents particularly value? Ever since my first encounter with the Bartang Valley, I have heard residents praising the "pureness" of the environment, the feelings of tranquillity it offers, and the solidarity networks one can enjoy within such a tight-knit community. Such positive bonds may influence whether the population chooses to be mobile.

This research considers multiple forms of interactions between environmental conditions and (im)mobilities. In the Bartang Valley, environmental hazards displace people and hamper transportation. Being frequently trapped for environmental, economic, or material reasons and unable to access products and services may challenge livelihoods and the ability to stay in place. However, the environment may simultaneously be a source of enjoyment and well-being which encourages voluntary immobility. This justifies the importance of a complex theoretical

[2] http://www.iom.tj/index.php/en/
[3] https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=TJ

framework to study the mobility-environment nexus, one which incorporates a population's material and immaterial interactions with places on different spatial scales. The novelty of this research lies in the exploration of small-scale mobilities, which have not received much scholarly attention from the studies on the relationship between mobilities and environmental conditions. I will examine the effects of environmental variability on transportation infrastructure, and therefore on mobilities within a valley, on rural-urban mobilities, as well as on short-distance migration. An important part of the research also concerns immobility as another facet of mobility, whether involuntary—in the case of road closures—or voluntary, when residents don't aspire to move. This fresh perspective on the environment-mobilities nexus led me to mobilise concepts that are not traditionally used in this body of research. Concepts and ideas coming from the *mobilities paradigm* within social sciences, such as motility, mobility justice, and immobility, have particularly stimulated my research. Others, originating from the literature on people-place relationships in cultural geography or environmental psychology such as place attachment and adaptive capacity, have also been central.

This research is based on protracted ethnographic fieldwork experience in Tajikistan. From 2016 to 2020, I conducted nine months of fieldwork in the VMKB, concentrated in the Bartang Valley. The main topics developed in this thesis have emerged from this fieldwork and I have attempted to keep research questions open and flexible throughout. I travelled with local shared cars, on foot, and by bicycle for fieldwork, studies, and leisure. Living with residents and sharing their everyday routines constituted the most fruitful and enlightening part of the fieldwork. I observed daily practices, shared journeys, and had uncountable informal discussions with residents. I also conducted approximately 70 semi-structured interviews with the help of a local research assistant. In addition, my observations of transportation infrastructure, vehicles, and other mundane or material aspects of life in the Bartang Valley helped me to explore what living in a context of remoteness and environmental risks means in practical terms. Research videos (some of which were edited into short documentary films) have been an invaluable means through which to reflect on physical and embodied aspects of mobility, remoteness, and place attachment. Some of these videos feature in this dissertation.

This research contributes to the field of environmental mobilities by presenting a case-study drawing from a long and in-depth ethnography and multiple methods, media and modalities in order to emphasise individual, embodied and multisensory experiences. This case study on the Bartang Valley aims to provide relevant findings not only about Central Asia and Tajikistan, but also about rural mountainous societies more broadly. The human geography perspective offered by this work also enables to affirm the importance of focussing on people-place relationships through the prism of place-related concepts in order to understand the way environmental conditions and (im)mobilities may interact. Theoretically, this research attempts to broaden the field of environmental mobilities and discusses notions of accessibility, remoteness, and immobilities. These are key contemporary issues which touch upon mobility justice, social justice, social inclusion, and economic poverty, and which seem even more salient in the global context of climate change. The merging of conceptual approaches originating from the fields of urban sociology, migration studies, human geography, and

environmental psychology enables to bring a fresh and novel perspective to the study of environmental mobilities, which helps to address critical aspects of the field.

***STRUCTURE OF THE DISSERTATION**:*

This research work was conducted as a PhD by publications. The dissertation consists of a collection of five peer-reviewed research articles:

- **ARTICLE 1:** Blondin, S. 2019. Environmental migrations in Central Asia: A multifaceted approach to the issue. *Central Asian Survey* 38(2), 275–292.

- **ARTICLE 2:** Barrioz, A., et S. Blondin. 2019. Filmer la montagne et l'isolement. Les dimensions matérielles et sensibles de l'attachement au territoire et de l'accessibilité.[4] *Revue Française des Méthodes Visuelles* 3.

- **ARTICLE 3**: Boas, I., Schapendonk, J., Blondin, S., and A. Pas. 2020. Methods as moving ground: Reflections on the "doings" of mobile methodologies. *Social Inclusion* 8(4), 136–146.

- **ARTICLE 4**: Blondin, S. 2021. Staying despite disaster risks: Place attachment, voluntary immobility and adaptation in Tajikistan's Pamir Mountains. *Geoforum* 126, 290-301

- **ARTICLE 5:** Blondin, S. 2020. Understanding involuntary immobility in the Bartang Valley of Tajikistan through the prism of motility. *Mobilities* 14(4), 543–558.

Another collective peer-reviewed article was published while I was building my theoretical reflection on the nexus between migrations and environmental hazards. It is not part of the corpus of this dissertation but features as a reference:

- Boas, I., Farbotko, C., Adams, H., Sterly, H., Bush, S., Van der Geest, K.,, Wiegel, H., Ashraf, H., Baldwin, A., Bettini, G., **Blondin, S**., de Bruijn, M., Durand-Delacre, D., Fröhlich, C., Gioli, G., Guaita, L., Hut, E., Jarawura, X. F., Lamers, M., Lietaer, S., Nash, S. L., Piguet, E., Rothe, D., Sakdapolrak, P., Smith, L., Tripathy Furlong, B., Turhan, E., Warner, J., Zickgraf, C., Black, R. and Hulme, M. 2019. Climate migration myths. *Nature Climate Change* 9(12), 901–903.

Other dissemination works have been published during the course of this research and have enabled me to develop the main ideas and arguments and to receive insightful feedback, and another peer-reviewed article is currently under review:

- Blondin, S. 2019. Isolement et marche à pied dans la vallée du Bartang au Tadjikistan[5]. GéoAgenda 1.

[4] Translation: Filming mountains and remoteness: Material and sensitive dimensions of place attachment and accessibility.
[5] Translation: Remoteness and walking trips in Tajikistan's Bartang Valley.

- Blondin, S. 2020. Der Blick vom Pamirgebirge in Tadschikistan auf eine globale Pandemie[6]. *Zentralasien-Analysen* 141, 3–7.

- Blondin, S. 2020. Staying and circulating in the Pamirs of Tajikistan: Enjoying amenities and dealing with vulnerabilities. HABITABLE Blog.[7]

- Blondin, S. (Forthcoming, under review). Let's hit the road! Environmental hazards, materialities, and mobility justice.

In the present dissertation, the five peer-reviewed articles are complemented by a general introduction and three following chapters which introduce the research context, present the theoretical framework, and discuss the fieldwork experience and research methods. Every article is accompanied by an introduction and a conclusion. On the basis of the doctoral committee's reviews, a critical discussion complements article 1. Article 4 is also followed by a theoretical discussion on political, historical and mobility-related aspects of place attachment, which allows to elucidate the connection between article 4 and article 5. The dissertation concludes with the main contributions and limits of this research, and offers an in-depth reflection on future directions for the field of environmental mobilities and on the implications of the research for Tajikistan's Pamirs. This final chapter enables to delve into some of the theoretical perspectives and empirical insights put forward by the articles.

[6] Translation: The view from the Pamir Mountains in Tajikistan on a global pandemic.

[7] https://www.hugo.uliege.be/cms/c_6590667/en/habitable-blog-staying-and-circulating-in-the-pamirs-of-tajikistan-enjoying-amenities-and-dealing-with-vulnerabilities

2. SUMMARY OF ARTICLES INCLUDED

- **ARTICLE 1**: Environmental migrations in Central Asia: A multifaceted approach to the issue (Section 4. 2.)

  Journal: Central Asian Survey

  Abstract: Increasingly, studies are considering Central Asia a 'hot spot' of climate change and a region prone to environmental migrations. Growing aridity and the shrinking of glaciers may have important impacts on food security, health, human security and infrastructure in the region and compel people to move. Drawing on the literature on environmental issues in Central Asia and on interviews conducted in the Kuhistoni-Badakhshan Autonomous Region of Tajikistan, this article provides a literature survey on environmental migrations in the region and positions Central Asia in the current debates within the broad environmental migrations literature. The article shows that environmental issues can stand out as an important push factor for out-migration in Central Asia, highlights the important role of the Soviet heritage of environmental management as well as of post-Soviet socioeconomic transformations in understanding these issues, and discusses possible adaptation strategies.

  Keywords: Central Asia; climate; adaptation; migration; mobility

- **ARTICLE 2**: Filming the Mountain and Isolation: The material and sensitive dimensions of attachment to a territory and accessibility (Section 5.4.3.)

  Article co-authored with Anne Barrioz (PhD, CNRS / Université Savoie Mont-Blanc, Laboratoire EDYTEM).

  Journal: Revue Française des Méthodes Visuelles

  Abstract: An audiovisual approach stimulates an epistemological, methodological and ethical reflection in the geographer. In this paper, we want to highlight the advantages and the stakes of a filmic and sensitive approach in geography. Through examples from our doctoral researches, which focus on issues of habitability, place attachment and mobility in mountain valleys of Tajikistan and France, our aim is to point out the benefits of videos in order to reveal, discuss and put these processes into perspective.

  Keywords : Audio-visual approach, Sensitive geography, Mountains, Remoteness, Mobility

- **ARTICLE 3**: Methods as Moving Ground: Reflections on the 'Doings' of Mobile Methodologies (Section 5.4.4.)

  Article co-authored with Dr. Ingrid Boas (Environmental Policy Group, Wageningen University), Dr. Annemiek Pas (Stockholm University) and Dr. Joris Schapendonk (Radboud University)

  Journal: Social Inclusion

Abstract: As mobilities studies became a well-respected field in social science, discussions on mobile research designs followed. Usually, these discussions are part of empirical papers and reveal specific methodological choices of individual researchers, or groups of researchers sharing the same objectives and questions. This article starts with a different approach. It is based on continuous discussions between four researchers who developed their own version of mobility-driven projects, starting from different disciplinary backgrounds and using different research techniques. By sharing and contrasting personal fieldwork experiences, we reflect on the doings of mobile methodologies. We engage with the mistakes, dilemmas, and (dis)comforts that emerge from our own mobile research practices, and discuss what this implies for relations of power between the researcher and the research participants, and to what extent mobile research can represent the mobility that we seek to study. Specifically, the article addresses three questions: 1) To what extent do we produce different knowledge with our mobile methodologies? 2) How do our smooth writings about methodology relate to the 'messy' realities in the field? 3) How do our practices articulate and transcend difference between researchers and research participants?

Keywords: mobile methodologies; mobility; positionality; reflexivity; representation

- **ARTICLE 4**: Staying despite disaster risks: Place attachment, voluntary immobility and adaptation in Tajikistan's Pamir Mountains (Section 6. 2.)

  Journal: Geoforum

  Abstract: Individuals threatened by environmental risks may choose migration as a survival or adaption strategy. However, various factors such as attachment to place may encourage immobility despite disaster risks. Since the collapse of the USSR, residents of Tajikistan's Pamir Mountains have faced significant political and socioeconomic difficulties and been exposed to environmental hazards such as floods, rockslides, landslides, and avalanches. These hazards put human security, infrastructure, food security, and accessibility to mountainous areas at risk and call into question aspirations to remain. Drawing on ethnographic fieldwork in the Bartang Valley, this article addresses immobility in a context of changes and risks. The concept of place attachment is used to explore people-place relationships and voluntary immobility. Results show that place attachment is shaped by cultural, socioeconomic, ecological, and historical variables and that the relationship between place attachment and mobility is complex. The strong place attachment of the Bartangis influences immobility aspirations, short-distance displacements, and return after international out-migration. Findings suggest a mutually reinforcing relation between place attachment, immobility aspirations, and adaptive capacity to disasters, which points to a need for more attention to voluntary immobility and people-place relationships within environmental mobilities research.

  Keywords: place attachment; voluntary immobility; adaptive capacity; Pamirs; Tajikistan

- **ARTICLE 5**: Understanding involuntary immobility in the Bartang Valley of Tajikistan through the prism of motility (Section 7. 2.)

Journal: Mobilities.

Abstract: While in many parts of the urban world the variety of means of transport increase, in other regions such as the rural, mountainous valleys of Tajikistan, people still have limited access to any means of transport. As such, local communities may easily get stranded and isolated from food markets and healthcare facilities. Based on ethnographic fieldwork in the Bartang Valley of the Autonomous Kuhistoni-Badakhshon Province of Tajikistan this paper aims to understand how situations of involuntary immobility emerge in the region. On the theoretical level, the paper demonstrates the value of motility as a conceptual term to explore why people face involuntary immobility. In a context of physical remoteness, environmental variability and dilapidated infrastructure, new facets of the concept of motility are revealed, notably on the ways inhabitants navigate through adverse mobility conditions. As such, the paper is articulated around the three dimensions of the concept of motility: accessibility, mobility skills and appropriation of mobility. Results show that most people in Bartang have a low motility due to the lack of vehicles, frequent environmental hazards and the demanding set of competencies required to be mobile. This low motility induces situations of involuntary immobility which is more commonly experienced by particular groups but affects most inhabitants when the road is closed following climatic events.

Keywords: motility; immobility; accessibility; trapped populations; Pamirs; Tajikistan

3. RESEARCH CONTEXT: THE REMOTENESS AND VULNERABILITIES OF THE BARTANG VALLEY

This chapter establishes the geographic and historical contexts of the research and introduces the main topics of exploration in this dissertation: vulnerabilities, remoteness, accessibility, and mobility. The first section introduces the region under study, the Bartang Valley; the socioeconomic vulnerabilities residents live with and adapt to there; and mobility as a response to risks. The second section situates the Bartang Valley in its political context by focusing on the particularities of the marginalised region's location in the Viloyati Muxtori Kuhistoni Badakhshon (the Autonomous Province of Mountainous Badakhshon, hereafter VMKB).[8] The third section examines physical remoteness through a brief political history of (in)accessibility in the region and sheds light on the way its remoteness somewhat decreased during the Soviet era and re-emerged afterwards. This contextualisation highlights the importance of studying the (im)mobilities of the Bartangis[9] at the scales of valley, province, country, and beyond, as well as the ways (im)mobilities are appropriated, valued, and sometimes disrupted.

3. 1. THE BARTANG VALLEY

> Before falling asleep, I turned the day's events over in my mind. The bumpy drive through the gorges of the Bartang, precarious bridges, being stuck in a side stream with the Russian jeep, being pulled out of the icy water by friendly farmers, finally arriving in Roshorve with the sunset, where we were greeted by a group of young girls with bread and salt as well as by music. Then the unforgettable evening with more music and the joy of dancing and the prospect of many more exciting days at the foot of the Peak of the Revolution (Pic Revolutija) with its altitude of 6,794 m, in a region practically cut off from the rest of the world. What occupation could be more interesting than that of an ethnologist? By the next morning, when we were able to begin the day with freshly baked bread with butter and tea, it was clear to me that someone ought to write about the people in the Pamirs, their eventful past and their enormous present problems after the collapse of the Soviet Union and the independence of Tajikistan (Bliss 2006, xiii).

3.1.1. An introduction to the Bartang Valley

Since my first trip to the Pamirs in 2013, I had heard many stories about the Bartang Valley, especially about the bad state of the road leading there and the harsh living conditions. "Don't go to Bartang because the road to Bartang is dangerous" ("*Bartang maraw, ki roh-i Bartang*

[8] Whereas many academic studies use the Russian version—Gorno-Badakhshan Avtonomnaya Oblast (GBAO)—VMKB is the official Tajik name for the region, and therefore the one I use throughout this work.

[9] The plural form "the Bartangi" is also widely used in the literature but I have chosen to use "the Bartangis" in this work, in order to highlight the plural form, like in the Bartangi language "Bartagien" or "Bartangijen" and in Tajik "Bartangiho".

khatar ast") is a well-known saying throughout the Pamirs.[10] I found such cautionary statements more intriguing than intimidating, and first travelled to the Valley in 2016. I soon noticed that the state of the road is indeed bad, being full of potholes and bumps, and that large sections traverse very steep mountainsides, making the journey both impressive and staggering. Road conditions are a common conversational theme. People arriving in the upper Bartang Valley are often asked about them, especially in the summer season of flooding, or during snowy winters when avalanches often block the road. The Bartangis have many stories to tell about their road, from joyful memories of multi-day hikes in the Valley to tragic stories of accidental deaths, and they often complain about the lack of road accessibility. Bliss, the author of a 2006 monograph which offers a broad portrait of the ethnography and living conditions of the VMKB after the collapse of the Soviet Union and the civil war in the 1990s, calls the Bartang Valley "the most remote community of Tajikistan, perhaps even of all former Soviet central Asia" (2006, xiii). In his book, he often refers to and emphasises the isolation of the Bartang Valley. Ethnographer Kicherer also writes that the residents of Bartang refer to their valley as "the place behind the bottom" (2019, 175).

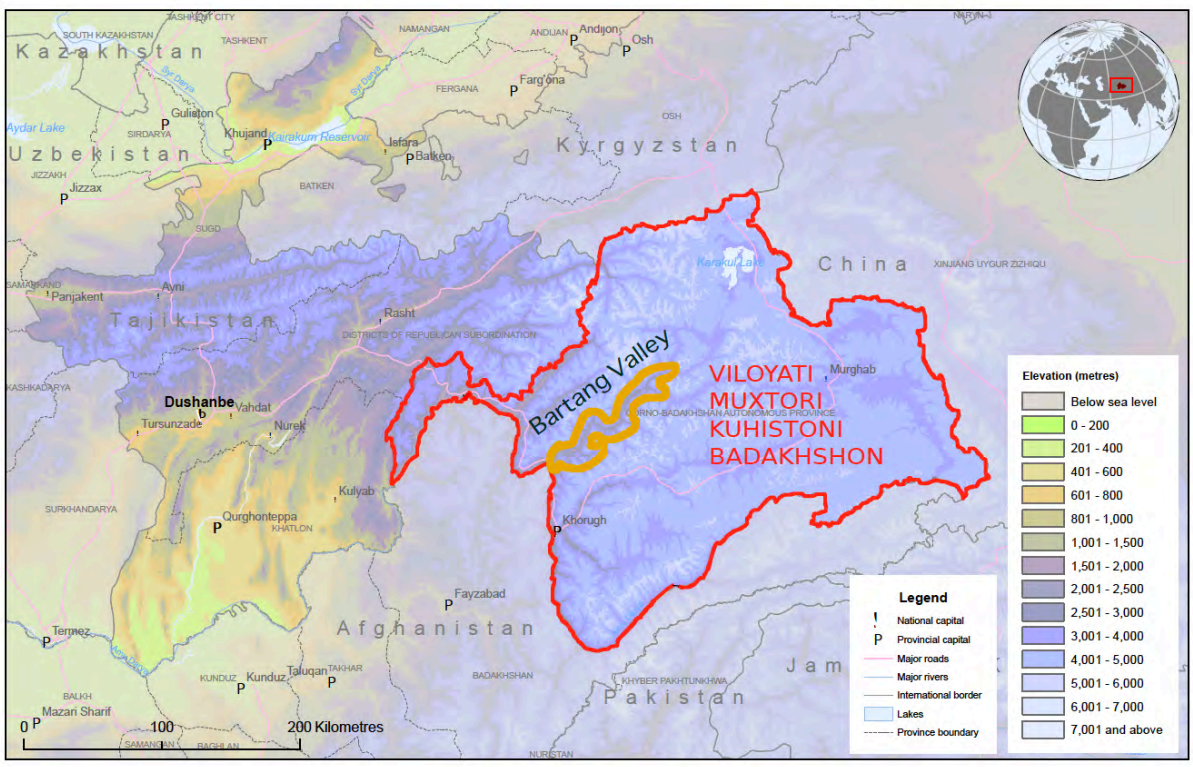

Figure 1: The location of the Bartang Valley within the Viloyati Muxtori Kuhistoni Badakhshon. Base map from the UN OCHA "Tajikistan Reference Map - Elevation Map (March 2012)" (https://reliefweb.int/map/tajikistan/tajikistan-reference-map-elevation-map-march-2012) © S. Blondin

[10] Also quoted in Article 5: "Understanding involuntary immobility in the Bartang Valley of Tajikistan through the prism of motility »

The Bartang Valley is located at the centre of the VMKB in the district (*nohiya*) of Rushon, between the Rushon and Yazgulom mountain ranges. The Valley is named after the river which links the Murghab district to the Rushon district (around the city of Vomar, the administrative centre of the district, at the Afghan border). Approximately 25,000 people live in the Rushon district and about 6,500 in the Bartang Valley. This research focuses on the central and upper parts of the Bartang Valley (the Basid and Savnob *jamoatho* [municipalities or village councils]) where approximately 4,500 people live). The Bartang River is the largest tributary of the Amu-Darya in Tajikistan and eventually merges into the Pyanj River.[11] Along the narrow valley, "many villages lie on small cones of alluvial land above the river, where side-valleys feed into the Bartang" (Bliss 2006, 42). As the local saying goes, "the one who has not seen the Bartang has not seen the Pamirs", probably referring to the impressive views offered by the steep terrain (*tang* means "narrow" in Tajik and Pamiri) and to the harsh rural lifestyles of the Valley residents.

Figure 2: Roshorv village. July 2017. © S. Blondin

[11] The Pyanj later merges with the Amu-Darya in southwestern Tajikistan.

Figure 3: Basid village. July 2017. © S. Blondin

3.1.2. Socioeconomic vulnerabilities

-Small-scale subsistence agriculture and herding as paramount economic activities

Bartangi people practise small-scale subsistence agriculture and herding. These hold critical importance for earning a livelihood but are not enough to ensure food security and economic stability. The Bartangis cultivate mostly wheat, potatoes, barley, green peas, carrots, onions, and cabbages as well as apricots, cherries, apples, and mulberries. Agrarian work is intense in the spring when the fields are ploughed, sown, and irrigated, and in autumn when grains and vegetables are harvested. In most villages, and especially in smaller settlements of Upper Bartang, agrarian work is done without any motorised farm vehicles, sometimes with oxen, but often only with human labour. From early spring until harvest, fruits, vegetables, and grains are irrigated using small channels and ditches. Herding of goats, sheep, and cows is also a central and time-consuming activity for Bartangi households. In Basid, for example, most households have five to fifteen animals, which only ensure occasional consumption of meat and limited consumption of milk, yoghurt, and fresh butter. In summer, most of the animals go to high pastures where they are kept by a family of shepherds and stay there for about four months. Given the dry climate, grazing pastures are scarce and animals are brought far away from villages. In winter, animals are kept in villages and fed on fodder produced during the summer months. Given the lack of arable land in some villages (such as Basid, Yapshorv, or Barchediev) or irrigation challenges in others (such as Roshorv), winter fodder for livestock is limited and must occasionally be purchased from other valleys or towns. As Robinson notes, “Fodder, like

all other crops, can only be produced under irrigation, which involves huge investments of labour, building canals to bring glacial melt-water to tiny fields" (2005, 200). Given the lack of machines, the topography of villages, and sometimes the limited labour force, agriculture and herding requires intense physical work.

Small-scale subsistence agriculture and herding are central activities for the Bartangis but they don't ensure food security. Most food crops—especially vegetables—are not available year-round (Robinson and Guenther 2007) so residents depend on markets for daily consumption. Households buy pasta, rice, tea, sugar, biscuits, and sweets from village merchants or during trips to towns. In addition, due to a lack of available vehicles and high transportation costs, residents of Central and Upper Bartang can't sell their products in town markets, especially dried fruits such as mulberries and apricots which are often harvested in large quantities. Hence the need for non-agrarian cash incomes and the importance of access to nearby towns and cities for employment opportunities and purchasing products.

Figure 4: Young shepherdesses and their herd on a plateau between Roshorv and Savnob. July 2017. © S. Blondin

-Economic vulnerabilities

Tajikistan is often counted as one the poorest countries in the world (Abdullaev and Akbarzadeh 2010) with a GNI per capita of about $1,030 (USD) in 2019 according to the World

Bank.[12] In 2013, 68% of citizens were living under the national poverty line and 49% with under $2 (USD) a day (Abdullaev and Akbarzadeh 2010, xix).[13] In this context, living conditions are particularly precarious in rural areas such as the Bartang Valley, since access to electricity and clean water, for instance, is still limited in many places. In addition, food insecurity is still a pressing issue in the Valley. The collapse of the Soviet provisioning system which made food products, clothes, and shoes available in all villages (Mostowlansky 2017)—and transports facilities more accessible to the residents of Bartang—after the demise of the USSR put the residents of the Bartang Valley in a critical socioeconomic situation (Bliss 2006). In addition, during the Tajik Civil War (1992–1997),[14] many Bartangi who had been working or studying in other parts of the Republic returned to their home region, which provoked a demographic growth and raised the issue of the means of subsistence since arable lands were limited and the VMKB was physically isolated from the rest of the country (Middleton 2016). At that time, issues of food and energy insecurity and access to healthcare facilities came to the fore and remain central even today (Hoeck et al. 2007; Kassam 2009). Food insecurity, together with the loss of biodiversity in some parts of the region, raise the question of adapting agrarian practices to changing climate conditions provoked by global warming and glacial melt (Kassam 2020; see Hock et al. 2019 on climate variety in mountainous regions). Food insecurity becomes particularly concerning in the Valley during the spring, when food stocks harvested in the autumn are becoming scarce. Food insecurity is also impacted by physical accessibility since the quantity and variety of products available in villages tend to decrease when roads are blocked by floods or avalanches and local merchants can't reach city markets. In the highest villages, such as Roshorv and Ghudara (both located at 3,000–3,100 metres above sea level), where fruit doesn't grow, children are sometimes sent to stay with relatives in the lowlands for weeks or months at a time, where they can eat fruit as part of their diet and thereby avoid vitamin deficiencies. During the beginning of the COVID-19 pandemic in the spring of 2020, mobility disruptions and the decrease of rural-urban mobilities induced a lack of food diversity in the Valley. According to the World Bank, household food consumption in Tajikistan decreased significantly between March and August 2020 (World Bank 2020).

In addition to food insecurity, the Bartang Valley suffers from energy insecurity. During the Soviet era continuous energy was provided through centralised gasoline-powered generators, but energy poverty has increased since 1991 in some villages. Electrical systems in villages

[12] In April 2020, during the COVID-19 pandemic, the International Monetary Fund approved immediate debt relief for its 25 "poorest and most vulnerable members", including Tajikistan.
[13]https://www.imf.org/en/News/Articles/2020/04/13/pr20151-imf-executive-board-approves-immediate-debt-relief-for-25-countries

[14] The Tajik Civil War formed around the competition for power following independence from the former Soviet Union in 1991. Two main political groups were in opposition: the communist elite (that maintained power post-independence) and a multitude of Islamist and democratic opposition groups "prominently (although not exclusively) drawn from the Gharmi and Pamiri populations, who had been largely excluded from political power in the Soviet era" (Mitchell 2015, 358). The war caused more than 50,000 deaths and displaced more than half a million people (Laruelle 2018). About 55,000 "refugees" from the VMKB returned from other regions of Tajikistan after the war was over. They constituted 22.7% of the population in 1993 (Herbers 2001).

have only been developed in recent years, often through small hydropower stations, but shortages are frequent and in some places the electricity supply is only enough for lights, television, or charging mobile telephones. Small hydropower stations offer "clean" and renewable energy, but maintenance is not always easy. In the early autumn of 2020, a small hydropower station in the village of Basid stopped functioning due to a broken engine. Following a complicated—though eventually successful—logistical operation to repair the engine, the outside temperature dropped, causing the station's irrigation channel to freeze and cut off the electricity again. The lack of available firewood in the region makes such situations even more precarious and difficult to handle (Kraudzun 2014).

Overall, this limited access to "natural" resources and arable land compels residents to turn to non-agrarian economic activities. However, the unemployment rate remains very high. Only state employees—such as mayors, teachers, nurses, school cleaners, and intendants—have steady, salaried work. Retirees also receive monthly pensions. Most salaries range between 300 and 1000 somoni (27$ to 88$ as of February 2021) and are not enough to cover the basic needs of a Bartangi household, in particular healthcare fees, building projects, or university tuition, for instance. In this context, many residents borrow from relatives, banks, or local merchants. Drivers of shared "taxis" (commuting between the Valley and Rushon, Khorog, or Dushanbe) and village merchants are among the only self-employed workers in the Valley, but this income is not stable. In recent years, some households have built guesthouses, or become translators or guides for foreign visitors or tourists, but this work is also unstable. Currently, the disruption of international mobility caused by the COVID-19 pandemic has only further increased economic vulnerabilities.

-Environmental risks

The challenging socioeconomic situation in the Bartang Valley is further complicated by frequent environmental hazards. The Bartangis live mostly at the bottom of mountain valleys, where they are exposed to landslides, rockslides, and avalanches. Many villages are also prone to flooding. As mentioned earlier, such hazards frequently block roads during the summer months and more broadly threaten humans, livestock, and infrastructure. The Intergovernmental Panel on Climate Change has showed that glaciers are shrinking in mountainous areas, which modifies the frequency of hazards such as floods or landslides (Hock et al. 2019) and increases the number of potentially hazardous glacial lakes (Mergili et al. 2011). The formation of these lakes may also provoke floods, mudflows, and landslides. Rainfall also triggers destructive rockfalls, mostly in the spring. Through an Indigenous knowledge perspective foregrounding the observations of residents, Kassam finds that the levels of some rivers in the Pamirs appear to have increased and their temperatures to have decreased in summer under the effect of glacial melt. Given the aridity or semi-aridity of the region, residents irrigate their land using an ancestral system of channels that originate from glacier-fed rivers (Bliss 2006). As such, their current subsistence agriculture practices do not seem to suffer from rainfall variability or higher temperatures. However, shrinking glaciers in the coming decades are a cause for concern concerns are raised as to how the water stock will evolve in the coming decades as glaciers shrink (Hock et al. 2019). Data remain scarce on climate change and

disasters in Tajikistan and the first article of this thesis examines these issues through a literature review.

One of the most sensitive and pressing environmental risks to the region can be traced to the Bartang Valley's Sarez Lake. Located 3,263 metres above sea level, this lake is about 75.8 kilometres long, making it one of the largest in Tajikistan. The natural dam which formed the lake after an earthquake and a massive landslide in 1911 is said to be the highest in the world. The stability of the dam raises concerns, especially given the seismicity of the region. As Bliss writes, the dam's collapse would "not only destroy all life in Bartang but would also cause great damage in the Pyandsh all the way to southern Tajikistan" (Bliss 2006, 29).[15] Despite this risk, the lake is also viewed as an asset for the region in terms of its potential to generate hydropower (see Féaux de la Croix and Suyarkulova 2015 and Ibañez-Tirado 2015 on hydroelectric infrastructure in Tajikistan). This would inevitably require significant financial investment—especially given the physical remoteness the lake—and would raise social issues regarding the future habitability of the Valley.

Thus, like many mountainous communities in the world, the residents of the Bartang Valley are threatened by multiple environmental hazards. The next section explores how cultural, historical, and spiritual elements of Bartangi life contribute to shaping local perceptions and subjective experiences of living with risks.

3.1.3. Normality and exceptionality: Living with risks in the Bartang Valley

As mentioned previously, earning a livelihood in the Bartang Valley is characterised by a vast array of social, economic, and environmental vulnerabilities. Such vulnerabilities are perceived and experienced in multiple ways by residents. Studies have highlighted that environmental risks are sometimes considered secondary by communities facing multiple difficulties simultaneously (Ibañez-Tirado 2015; Barnes 2015). Risks of various natures may be incorporated into everyday life in such a way as to have become normalised. This section demonstrates the value of examining the way different types of risks and vulnerabilities are perceived and experienced in order to explore how populations react to and act upon those risks.

-On the normality of "disasters"

Over the past three decades the populations of the Bartang Valley have undergone different kinds of sociopolitical shocks, including the demise of the Soviet Union in 1991 and the Tajik Civil War between 1992 and 1997. These two events have had long-lasting effects in terms of food and energy insecurity and lack of access to healthcare. Many households do not have access to stable incomes and/or are indebted. In addition, environmental risks act as threat multipliers which occasionally reinforce the inadequate access to food markets and healthcare facilities and which damage infrastructures such as houses, roads, irrigation channels, or hydropower stations. Sarez Lake, for instance, is perceived as a threat, and nearby villages are equipped with an early warning system designed to alert the population in case of a dam breach.

[15] The Pyandsh River is also sometimes spelled Pyanj or Panj.

This threat is one of the most severe for the people of Bartang. Such vulnerabilities to disaster are so embedded into the lives of the residents that they tend to become normalised.

Ibañez-Tirado has developed the notion of "everyday disasters" to explore the ways different kinds of disruptions are experienced by residents of Kulob (Khatlon Province): "Constant debt and chronic illnesses, combined with a lack of sustainable sources of income and affordable medical care, were also cited by my informants as disasters that were not eventful but rather constant aspects of people's daily lives" (2015, 551). This echoes the situation of many of my Bartangi interlocutors. The perception of what constitutes a disasters, hazards or risks is subjective and context-sensitive (see Oliver-Smith 1999). Ibañez-Tirado further explains:

> Rather than drawing a clear boundary between mundane daily life and unexpected/catastrophic events, my acquaintances in southern Tajikistan often told me that there were so many disasters overlapping their daily routines that the general context in which their lives evolve was experienced as stagnation (*kasodi*[16]) (2015, 551).

If we define a disaster as an adverse event which disrupts routine life (see Oliver-Smith, 1999), we understand that the notion is highly subjective and varies greatly from one community to another. What is viewed or experienced as a disaster is determined by the history and related risk perceptions of the community, and therefore that "risk perception and assessment are grounded in the cultural norms and values that both govern and are embedded in the relationships that human communities have with their physical and social environments" (Oliver-Smith 1996, 320). My interlocutors often casually told me stories about deadly floods, mudflows, rockfalls, or avalanches in their village, showing that "the intense, dramatic, vocabulary of emergency often does not fit with how people live through slow emergencies at the interface of stalled and disastrous time in a durative present" (Anderson et al. 2020, 631).

However, the normalisation of environmental hazards does not mean that the residents of Bartang don't consider anything a disaster, or don't dread its adverse effects. Some of my acquaintances were clearly traumatised by a destructive (but not deadly) earthquake in December 2015. In the village of Basid, the sporadic fall of enormous rocks also scares most inhabitants. Families who relocate following such events often insist on the relative safety of their new settlement compared to the previous one. My point here is not that the Bartangis are ready to endure everything and are not scared of anything but rather that—as Anderson and colleagues put it while developing their concept of "slow emergencies"—"the everyday and emergency blur and become indistinct" (Anderson et al. 2020, 632). In the context of this research, looking at people's perceptions of risks and disruptions have helped me to regard them as somehow "common" and to orientate my research towards the links between risks and mundane practices rather than focusing on exceptional ones, which is why I considered it important to introduce such context-specific elements here.

-Hardships and resilience

[16] *Kasodi* also refers to shortages.

The way individuals perceive risks is intertwined with how they act upon and experience them (Adger et al. 2013; Devine-Wright 2013). Since the Bartangis tend to see risks as commonplace, living with risk has participated in shaping strong individual and community resilience over time. My interlocutors in Bartang often finished discussions of the issues they experience by saying, "Well, it will get better" (Taj. "*ay soz meshavad"*). Faced with a multitude of difficulties (protracted debt, food insecurity, lack of healthcare, no access to education, long absences of loved ones), the Bartangis often demonstrate endurance and resistance. As Ibañez-Tirado explains in the case of Khatlon: "During times of hardship, patience (*sabr*) and endurance (*tokat*) were highly valued as religious virtues" (2018, 17). Culturally, complaining is regarded as a weakness and individuals are expected to show positivity and cultivate patience and endurance. The difficulties many Bartangi have experienced throughout their lives seem to have made them more able to endure (see Lemus-Way and Johansson 2020 on the resilience of migrant women in irregular transit). In Bartang, residents often refer to hardships as something they have grown accustomed to, and to which they must adapt. Spirituality, religion, endurance, and aspirations play a fundamental role in this context since risks perception and related resilience are profoundly embedded in complex cultural representations. As Oliver-Smith explains:

> The responses of disaster-stricken peoples invariably involve the moral and ethical core of the belief system and include a deep delving into concepts of both social and cosmic justice, sin and retribution, causality, the relationship of the secular to the sacred, and the existence and nature of the divine (1996, 308).

Kicherer posits that belief in *barakat,* a strong spiritual protection, acts as a "success catalyser" in the Bartang Valley (2019, 175). Many Bartangi consider that various sites in their Valley are embued with strong barakat, which helps them to endure hardships (Kicherer 2019).

Resilience, or the ability to recover from adversity (Berkes and Ross 2013), may be both individual and social, located at the scale of the individual, the household, or the community. For instance, community resilience, or the way communities organise in the face of risks, benefits from strong mutual support systems in the Bartang Valley, which helps residents endure difficult times. Although many Bartangi don't have personal savings or access to insurance, they are used to raising money or doing collective volunteer work in case of emergency. In addition, local merchants commonly extend credit to those in need. These community dynamics play an important role in helping residents withstand hardships. At the spiritual level, the Ismaili *jamoat* (international community) also provides guidance and support. Faith in the Hazar Imam (living Imam), the 49th Aga Khan, and His protection greatly helps most Bartangi face difficulties. On different occasions, my interlocutors told me that "you can't imagine how powerful He is," and expressed how much their faith helps them accept risks and deal with vulnerabilities. In this sense, the belief system of the Bartangis gives crucial insights into risk perceptions and resilience.

Nevertheless, being resilient or perceived as such neither erases vulnerabilities nor the sociopolitical dynamics behind their emergence (Bettini 2014). Although the Bartangis usually don't insist on their hardships because they consider expressing strength and positivity important, close friends in the field were more willing to emphasise their vulnerabilities, for

example, “We are always doing physical work and never enjoying our time, this is not a life,” or “You can’t imagine how many difficulties we have been faced with.” The Bartangis are used to hazardous conditions and have built a strong collective resilience over time, but the increasing socioeconomic issues they have faced over the last thirty years combined with their increasing contact with new places and lifestyles have prompted them to seek solutions that will lead to the “development” (*obodi*) of their valley. Since the end of the 1990s, out-migration to Russia has become a noteworthy phenomenon in the Bartang Valley as a response to a high unemployment rate and the need for cash income. More generally, multiple forms of mobilities are appropriated as a way to access education and employment opportunities as well as to (attempt to) fulfil other life goals.

3.1.4. Mobility as a response to vulnerabilities

-Labour migration

Livelihoods in the Bartang Valley are strongly connected to mobilities to Khorog, Dushanbe, and Russia and are based on strong translocal kinship networks. Bartangi households rely heavily on remittances sent from labour migrants in Russia, and to a lesser extent in Dushanbe or other parts of Tajikistan. According to figures provided to me in 2017 by the mayor of the Basid municipality, 5.5% of the inhabitants of Basid had migrated to Russia and 8.3% to Dushanbe.17 Such out-migration is fuelled by harsh living conditions and the need for cash income. Tajikistan as a whole is characterised by a very high rate of out-migration, usually labelled labour migration. In 2018, “out of a population of eight million, about one million work abroad seasonally—one of the highest rates of departure in the world” (Laruelle 2018, xvi). In 2008, remittances from migrants abroad amounted to 44% of the national gross domestic product, nowadays it makes up about one third.18 More than 90% of these migrants are men (Boboyorov 2018, 227). At the outbreak of the COVID-19 pandemic in the spring of 2020, while I was in Bartang, the harsh situation of labour migrants in Moscow was one of the most common conversation topics. Family members who had stayed put in the Valley worried about health conditions and job opportunities for their relatives working in Russia, as well as the possible decrease of remittances in the coming months or years.19

Internal out-migration from the Bartang Valley is also of paramount importance. Many Bartangis have settled in Khorog to work in the tertiary sector and notably in education (schools and universities). They are usually based in Khorog and travel yearly to Bartang where they maintain strong family connections and sometimes possess a house and/or lands. From Bartang, connections are also strong with the Eastern Pamirs, and particularly with the town of Murghab where many Bartangis have settled during the Soviet Times because of the socioeconomic opportunities the town offered. Mostowlansky has explained how the residents of Upper Bartang, near the former village of Sarez (where the lake of the same name is now located),

[17] Migrants were still counted as inhabitants.
[18] https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=TJ
[19] See my article on this topic in the Zentralasien-Analysen (in German): https://www.laender-analysen.de/zentralasien-analysen/141/der-blick-vom-pamirgebirge-in-tadschikistan-auf-eine-globale-pandemie/

have emigrated after a very destructive landslide in 1911 to the Ghunt Valley (south of the Bartang Valley) and to Murghab (2017, 47-48). As Mostowlansky explains, the Bartangis living in Murghab keep intimate links with the Valley from where they (or their ancestors) have migrated. This echoes conversations I had in the villages of Rukhch and Bopasor in the Upper part of Bartang with Bartangis who live in Murghab where they work as teachers and who spend their summers in Bartang. They told me that their salaries were higher than those of teachers in many other regions, as the State was offering better working conditions in order to attract State workers in a rather unhospitable place located at an altitude of 3600 meters above sea level. As one of Mostowlansky's interlocutor stated "Murghab [is] a place of opportunities for which a price has to be paid" (2017, 50). The migration from the Bartang Valley to the Ghunt Valley and Murghab in the aftermath of the 1911 earthquake is certainly a form of 'environmental migration' (a phenomenon that will be central to this dissertation) and still results today in important connections between the Bartangis living in Murghab and in Bartang.

Besides significant connections to other places within the Pamirs, the Valley is closely tied to other regions within Tajikistan. For instance, the villages of Basid and Chadud are highly connected to the Jayhun District of the Khatlon Province of southwestern Tajikistan (officially named Qumsangir before 2016 and still called this way), where most residents of Basid were displaced in the 1950s. At that time, the Soviet state forced mountain dwellers to move to cotton-growing plains which were under development (Bliss 2006, 79). Such forced resettlements served for economic, political and security rationales along the Afghan border (Kassymbekova 2011). While most residents returned to the Bartang Valley after poor sanitary conditions caused devastating fatalities (Kassymbekova 2011; Ferrando 2011; see Article 5, chapter 7), some decided to stay in Qumsangir. Thus, a Bartangi community still exists in Qumsangir today and maintains strong links with the Valley, in such a way that one of my interlocutors in Basid, who had lived many years in Qumsangir calls the place "the second Bartang" (*Bartang-i dowom*). Some individuals or households work there and spend their summers in Bartang where temperatures are much milder than in Qumsangir. Some children whose parents live in Qumsangir are raised by their grandparents in Bartang. Along with Russia and Dushanbe, Qumsangir is one of the most central destination sites for translocal and mobile Bartangi households. Such translocality has strong effects on daily life and social structures.

Most migrants from Tajikistan are young men who leave without their spouses or children (Olimova 2010). In the Bartang Valley, the absence of young men is an important phenomenon which reshapes gender roles and family structures (see Nazridod, Pereira, and Guerreiro 2019 on Khorog). For instance, in the absence of men, agrarian work tends to become the responsibility of women—who are already the primary household caretakers—and children. A culture of migration has developed, meaning that the receipt of remittances has become a cyclical process: Migrants remit money to their families back home, encouraging further out-migration since remittances improve livelihoods. As such, young people, especially men, are expected to migrate and save enough money to secure a livelihood when they return (see Mata-Codesal 2015). Drawing on her study of out-migration from Ecuador, Mata-Codesal identifies three features of a culture of migration: "International migration needs to be pervasive and often restricted to only one or a small range of destinations; the decision to migrate is perceived as an everyday decision while being socially sanctioned; and international migration is regarded

as the only true way forward" (Mata-Codesal 2015, 2277). Money earned abroad (often in Russia) usually helps migrants or former migrants to buy a house or a car, finance a wedding (Cleuziou 2013), and/or cover health expenses (Pellet and Jusot 2018) or education fees. Given the importance of the phenomenon, out-migration carries multiple social issues and has progressively become moralised (see Reeves 2011 on the case of out-migration in Uzbekistan).

-Educational mobility

In order to maximise finding employment, education is a priority in Bartang (Bliss 2006). During Bliss's visit to the VMKB in the mid-1990s, he noticed that the educational system there was "without urban–rural and male–female disparities" (2006, 255). To access higher education, rural Bartangi youth usually move to Khorog and Dushanbe; a small minority go to Russia. According to the national statistical agency Tajstat, there were 209,800 students in Tajikistan in 2018 and the number of universities had increased from 13 in 1991 to 39 in 2017.20 Regional figures for the Bartang Valley or VMKB are difficult to find. Many of my interlocutors in Bartang stressed the importance of education for the "development" (*obodi*) of the Valley, often considered by parents as a way for their children to avoid the hardships they experienced, especially in the 1990s. University fees often place a significant burden on household budgets, and sometimes push one of the student's family members to migrate in order to help pay for tuition. The need for advanced education is also promoted by his Highness the Aga Khan and his institutions through his edicts (*farmonho*) and through the presence in the region of the Aga Khan Lycée21 and the University of Central Asia22 in Khorog, both of international renown. These institutions are international and promote the mobility of students anywhere the Aga Khan Development Network (AKDN)—a network of private development agencies founded by the Aga Khan—is active, from Kenya, Canada, and Pakistan to Kyrgyzstan. Such connectivities impact the geographic imaginaries and mobilities, or at least the mobility aspirations, of Bartangi youth. His Highness the Aga Khan, as a spiritual leader and chairman of the AKDN, greatly encourages his followers (*murids*) to learn English, the language used for official encounters (Mostowlansky 2017). Learning English encourages international connections and increases the motility (mobility potential) of many Bartangi (Bolander 2017). Through Ismaili humanitarianism (see Mostowlansly 2020 on the concept), educational facilities, and entrepreneurship, the VMKB is increasingly developing bonds with other areas of the world where the AKDN is active, which influences the mobility of its residents.

This section has introduced the Bartang Valley and some of the socioeconomic vulnerabilities present there, including food and poverty insecurity, to which physical remoteness contributes. Environmental hazards also reinforce existing vulnerabilities. The Bartangis have become accustomed to enduring such vulnerabilities and have developed strong community resilience accordingly. They also turn to out-migration and other forms of mobilities to sustain livelihoods in the Valley. The next section considers these dynamics from

[20] https://www.stat.tj/en/database-socio-demographic-sector
[21] https://www.akdn.org/where-we-work/central-asia/tajikistan/education-tajikistan
[22] https://ucentralasia.org/About/Khorog

a political perspective. It situates the Bartang Valley in its regional context by introducing the autonomous province where the Valley is located—the Viloyati Muxtori Kuhistoni Badakhshon—and delves into its particularities and marginalisation within Tajikistan.

3. 2. THE VILOYATI MUXTORI KUHISTONI BADAKHSHON: PARTICULARITIES AND STATUS WITHIN TAJIKISTAN

3.2.1. A sparsely populated province with a strategic location

The Viloyati Muxtori Kuhistoni Badakhshon, located in the eastern half of the country, is surrounded by the Pamir Mountains. The region is bordered by Badakhshan Province (Afghanistan), Xinjiang Province (China), and Osh Province (Kyrgyzstan). Inhabitants commonly refer to their region as "Pomir", using the local name of the mountain chain to define the whole province. The VMKB covers nearly half of the total surface area of Tajikistan, approximately 64,000 square kilometres, -equal to 1.5 times the area of Switzerland- but only about 3% of the national population live in the province (approximately 230,000 people), which makes it a large but sparsely populated region. In terms of administrative division, the VMKB is composed of seven districts (*nohiyaho*)—the Bartang Valley is located in the Rushon district—and 42 municipalities (*jamoatho*, also sometimes translated as "village councils").

With 30,000 inhabitants, Khorog is considered the province's only city, where most economic and administrative activities are concentrated. Khorog has been a regional centre since 1896, when the Russian established a base in what was then only a small human settlement, at the junction between the Ghunt and Panj rivers (Middleton and Thomas 2008, 434), by transferring the main Russian garnison from Murghab (at that time 'Pamirsky Post', a Russian base created in 1893) to Khorog. From that time on, the Russian presence was firmly established in the region and Khorog was the centre from which archeological, geological or ethnographic expeditions were launched. In 1928, the Hungarian explorer Aurel Stein described Khorog as the place "where civilizing Russian influence manifested itself not merely in extended cultivation and flourishing orchards but also in electric lighting and a well frequented Russian school" (cited in Bliss 2006, 76). Over the decades, the provincial territory has been shaped around the town of Khorog, which remains today the only urban centre of the VMKB and which accommodates the only universities of the province, the regional headquarters of the Aga Khan Development Network, an increasing number or restaurants, hotels and guesthouses, and the province's only supermarkets and most lively bazaar.

Tajikistan's Pamirs have a specific history regarding the Russian penetration and the implementation of the Russian administration. The region has been explored rather late compared to other Central Asian regions given the topographic constraints posed by its territory. Middleton and Thomas (2008) have detailed how the Russian have mapped and imposed their sovereignty over the region with physical and logistical difficulties. Many explorers have delivered impressive accounts of their Pamiri adventures and notably of the difficulties of traveling in the region at that time (Middleton and Thomas 2008, 376, 385). The Russian presence in the Pamirs became substantial in the 1870s and the Russian power became concrete in the 1890s while the region was still officially ruled by the Bukharan Emirate. In 1905, as

Middleton and Thomas explain, "the post of deputy (Beg) of the Emir of Bukhara in Shughnan [the district where Khorog is located] was abolished and the administrative authority passed to the Russian head of the Pamir detachment" (2008, 435).

It was of particular importance for the Russian to impose their sovereignty over the Pamiri territory given the strategic location of the region at that time. As Remtilla explains:

> Russia and Britain, two colonial powers expanding their reaches into Central Asia and India respectively, found themselves in a number of contests as they tried to define the borders between the two empires. The mountainous region of Badakhshan appeared to be a suitable buffer zone, ruled in part by the Russian protectorate of Bukhara and in part by Afghanistan, a country whose foreign policy was periodically in British control (2012, 41).

As Bliss (2006, 247) also explains, in Badakhshan "the value of the land [laid] in its function as a buffer zone or border area", hence the strategic role of the region. Interestingly, the region's geographic location is still of great importance today within the frame of China's recent One Belt, One Road strategy, which aims at developing land connections between China and Western Europe. Mostowlansky has explained how the region has been called the "golden gate of Tajikistan" to underline the connections it offers with neighboring countries, and especially with China (2017, 118). Since the opening of the Kulma Pass border between Tajikistan and China in the Eastern Pamirs in 2004, Tajikistan has reinforced its economic cooperation with China, which reaffirms the importance of the VMKB's geographic location for the State, in terms of business opportunities and international relations.

3.2.2. An autonomous province

Since the end of the 19th century, the region has been part of various administrative and political entities. The most populated areas of modern-day Tajikistan's Badakhshan were part of the Bukharan Emirate in the 19th century. As Bliss describes "The Bukharan civil administration […] did little more than institute, from about 1900, a very cursory census which provided a basis for taxation. It is interesting to note that already at that time the special status of the high mountain valleys was taken into account." (2006, 73-74). The special administrative status of the region has persisted to the present day. The Russian power over the region has increased from the 1890s and the region became part of the Turkestan Autonomous Soviet Socialist Republic in 1920 (Elnazarov and Aksakalov 2011; Remtilla 2012). It then joined the new Tajik Autonomous Soviet Socialist Republic (ASSR) as an autonomous region in 1924, firstly with the status of 'Special Pamir Oblast' and then as 'Gorno-Badakhshan' ('Mountain-Badakhshan'; Bliss 2006, 76). The presence of Ismaili and Pamiri-speaking ethnic minorities in the province is one of the most salient particularities of the autonomous province within Tajikistan. About the multiple ethnic identities of the region and their connection to the autonomous status, Bliss explains:

> In view of the distinct ethnic identities of Pamiris and Kyrgyz, it is difficult to understand why GBAO was first made into a 'Special Region of the Pamir' in January 1925, and then later that year into an autonomous province (avtonomnije oblasti). In other cases such procedures were designed to enhance the status of ethnic minorities. This classification of their territory as an autonomous oblast gave

> the inhabitants the right to be represented in the Soviet of Nationalities. Otherwise the term 'autonomous' was fairly meaningless under the Soviet system, except for the fact that an autonomous oblast could (in theory) decide independently on its official language (2016, 245)

Since April 1992, the region is still considered an autonomous region of the Republic of Tajikistan (Herbers 2001; Abdullaev and Akbarzadeh 2010). However, the powers of the provincial authorities are limited nowadays and the state authorities have the final words in most decisions[23].

3.2.3. The Pamiri people(s) as ethnic minorities within Tajikistan

Although they are an ethnic minority within Tajikistan as a whole, the Pamiri people(s) comprise the ethnic majority of the VMKB's 230,000 inhabitants. Although a clear definition of Pamiri ethnicity does not exist, most people in the region and notably in the western valleys define themselves as such. The Pamiris are sometimes counted as "Tajiks" in statistical surveys and studies (Dagiev 2019, 42) but most of my interlocutors in the Pamirs did not self-identify as Tajik. The Pamiris speak Eastern-Iranian languages and are Shi'a Nizari Ismaili Muslims who follow the 49th Aga Khan, while the ethnic Tajik majority are Tajik-speaking[24] Sunni Muslims. Apart from the Pamiri people, Tajik-speaking Sunni populations are found in the northern parts of the province, predominantly in the Vanj and Yazgulom valleys, and ethnic Kyrgyz people, who are Kyrgyz-speaking Sunni Muslims, mostly inhabit the eastern part of the region. The region has been depicted as an ethno-cultural mosaic where several religions are practiced, and many different languages spoken (Dagiev and Faucher 2019). The "Pamiri" language includes multiple mutually comprehensible dialects, among them Shughni, Roshani, Bartangi, Khufi, and Roshorvi. Many of these are also spoken across the Afghan border, and bear similarities to the Wakhi and Ishkashimi languages of the southern Wakhan Valley. Some Pamiri peoples also inhabit the neighbouring regions of Badakhshan (Afghanistan), Xinjiang (China), or Gilgit-Baltistan (Pakistan), which contributes to cultural relations between these regions. Still today, the fact that the majority of the VMKB's inhabitants speak another language, practice another religion, and are connected to different spiritual networks than the majority of Tajik citizens contributes to its political differentiation.

3.2.4. Political marginalisation

In addition to its administrative and ethnic particularities and physical remoteness, the region appears to be politically marginalised from the rest of the country. The Tajikistani state is present in the region through the public administration, education, and healthcare systems, but in many domains the State seems distant. For residents of the VMKB, the post-Soviet period has been marked by a transition from inclusion in the USSR's vast and connective provisioning system to becoming disconnected and remote from Tajikistan's main administrative centres

[23] For a detailed interview of Yodgor Faizov, the Chairman of the Gorno-Badakhshan Autonomous Region, see: https://cabar.asia/en/yodgor-faizov-the-greatest-wealth-of-gbao-is-its-people

[24] Tajik or tojiki is the local name given to the Persian language, also called Dari in Afghanistan.

(Mostowlansky 2017). Just before the independence of the Republic of Tajikistan, the Lal-I Badakhshan (the Ruby of Badakhshan) movement was founded, which "envisaged a future Badakhshan as an independent republic with its own economic ties" (Mostowlansky 2017, 109; see also Bliss 2006, 276). The movement soon lost its influence, but relations between the VMKB and Dushanbe has episodically remained characterised by tension and discontent.

Conflicts have arisen over the past few years as a response to some state interventions in the VMKB. Although data are scarce on this topic given its sensitivity, news media outlets have reported on such events. According to Eurasianet, during a visit to the VMKB in 2018, Tajikistan's President Emomali Rahmon stated that he was growing tired of "lawlessness" in the region and subsequently declared that security there should be enhanced.[25] This followed a series of severe clashes in 2012 after a high-ranking official of the State Committee of National Security was murdered in Badakhshan (International Crisis Group 2018). Government forces moved into Khorog and different assaults were launched (Mostowlansky 2017, 145). As the BBC reported at the time, the government of Tajikistan, "which has little influence in the area", attempted to "bring Gorno-Badakhshan under its full control" (BBC 2012). According to a report of the International Crisis Group, local powerbrokers in the VMKB pose a threat to the State's central authority, which has intended to strengthen its self-rule in the region in the past years (International Crisis Group 2018). The 2012 events in Khorog resulted in dozens of casualties. Although precise information is difficult to obtain on such matters, on many occasions in recent years residents of the VMKB have expressed discontent and reaffirmed the region's political distance from Dushanbe.

Interestingly, the VMKB's roads—especially those leading to Khorog and along the Pamir Highway—illustrate such tensions, as they are used to showcase nationalist ideologies in Tajikistan. Numerous pro-government billboards express the importance of the "unity of the country" ("*vahdat-i milli"*), of standing together for the prosperity of the nation ("*Saodat-i milli dar vahdat ast"*, literally "The prosperity of the nation is in unity"). Some pay tribute to the independence and freedom of Tajikistan ("*Tajikiston, kishvar-i ozodi man":* "Tajikistan, my free country"). Such advertisements are a perfect illustration of how state intervention materialises in daily life (see Mostowlansky 2017). However, they also act as a reminder of the state's role in building or reinforcing national identity and unity in the post-Soviet, post-Civil War era. The celebration of Unity Day (*ruz-i vahdat*) throughout the Pamirs in recent years also illustrates the need to strengthen inter-ethnic and inter-provincial relations. On this occasion in 2010, as Mostowlansky notes, Tajikistan's president reminded the Pamiris that the VMKB was "an integral part of the State" (2017, 56). Throughout the years, my Pamiri interlocutors often expressed their perceptions of the state as distant. They displayed attachment to their region (the VMKB), village, or valley, and detachment from Tajikistan, which is perceived as faraway (the Pamiris sometimes refer to "Tojikiston" as the non-Pamiri part of the state, where mainly ethnic Tajiks live) and culturally different (for example, in terms of language and religion). In fact, they often insisted on the differences between the Tajik and themselves (see Mostowlansky 2017, 77). Given its integration into international and English-speaking Ismaili networks for education, cultural and spiritual purposes (Bliss 2006; Remtilla 2012), the Pamiris tend to see

[25] https://eurasianet.org/tajikistan-what-is-going-on-in-the-pamirs

their region as more modern and its inhabitants as better educated than the majority of Tajikistan's citizens. In this regard, Mostowlansky explains that the Pamiris position their region in a state of "positive marginality" belonging to "modernized margins" (2017, 78-79) and in this sense differentiate their region from the rest of the State. For Akiner, Tajikistan is "the most artificial Soviet construct in Central Asia" (2001, 2), since the different regions of Tajikistan share few cultural and historical commonalities. She considers the physical remoteness of the local topography as a barrier to exchange, contact, and mutual cultural influence (see also Remtilla 2012, 50). As Mostowlansky sums up:

> People along the Pamir Highway are not only located in the geographical margins of Tajikistan, as is often suggested by reference to the long distance to the capital, the high-altitude environment, and the surrounding borderlands. They are also subjected to often violent forms of exclusion around which many people with minority ethnic, linguistic, regional, and religious identities must organize their everyday lives throughout the country (Mostowlansky 2017, 125)

The presence of Ismaili institutions in the VMKB also distinguishes the region from other provinces of Tajikistan politically. Nowadays, the Aga Khan Development Network (AKDN), an international organisation, plays a crucial role in the VMKB in terms of education, healthcare, development, and humanitarian assistance (Bliss 2006; Remtilla 2012; Mostowlansky 2017). The paramount role of the network was during the Tajik Civil War in the 1990s, when it provided humanitarian supplies to the population in a context of isolation and severe food insecurity; this has given the organisation a leading role in the Pamirs. As Herbers (2001) explains, the AKDN has taken a leading part in the privatisation of the agricultural sector in the 1990's, namely in the division of lands and privatisation of livestock. The organisation also provided residents of the VMKB with seeds and fertilisers. As the main actor in agricultural transformation, the Mountain Societies Development Support Programme of the AKDN had a strong influence in making residents accept the transformation, as the Ismailis had a high level of trust in the Aga Khan's institutions. Interestingly, in 2020, when I was in Khorog during the COVID-19 global pandemic, many friends and interlocutors expressed how much they were counting on their Hazar Imam (religious title of the Aga Khan) to help the region cope with the announced economic difficulties. The role of the Aga Khan and the AKDN is often perceived as stronger than the state's, and the Pamiris count upon their help in harsh times. As Mostowlansky wrote: "Ismaili institutions, most importantly personified by the Aga Khan IV, enact the state through the services they perform" (2017, 112). The leading socioeconomic and religious role of the AKDN in the region contributes to making state institutions remote from Pamiri livelihoods (see Remtilla 2012). However, as Steinberg explains "the complex of global Isma'ili institutions is certainly an 'alternative' to the nation-state. But the state remains; it does not disappear" (2011, 8).

This section has demonstrated the particularities of Tajikistan's VMKB province in terms of administrative status, ethnicities and religions, and marginality, which helps to locate the Bartang Valley in its wider political context. Such distinctiveness and marginality, coupled with its mountainous topography, raises the issue of the incorporation of the VMKB within the territory of Tajikistan. The next section positions marginality in relation to physical remoteness.

It offers a concise history of the physical accessibility of the region and how this remoteness briefly decreased during the Soviet era.

3. 3. THE PHYSICAL (IN)ACCESSIBILITY OF THE VILOYATI MUXTORI KUHISTONI BADAKHSHON

This section delves into the (in)accessibility of the Bartang Valley and the VMKB. It introduces three periods which help to understand the poor accessibility of the area today and why the Pamirs are still largely defined by their remoteness: the absence of roads before the mid-1930s, the construction of roads during the Soviet era, and the dilapidation of infrastructure during the post-Soviet period. This brief history of (in)accessibility lends a historical and political perspective to the issues of remoteness and (im)mobilities in the Bartang Valley.

3.3.1. Pre-Soviet times

Bliss's monograph on the VMKB gives several accounts of the inaccessibility of the region before the arrival of the Russians and of the epic journeys many travellers and explorers have described. Concerning the Bartang Valley, he wrote:

> The older descriptions given by travellers of their successful, or vain, penetration into the Bartang valley from the Pyandsh read like adventure novels, even in the twentieth century: an entire populated valley to which there isn't even a continuous donkey trail, but in some places only ledges, or on some cliff overhangs a few wooden planks – all of it some few or even several hundred metres or more above the raging waters of the Bartang, trails along which people even have to carry their animals on their backs. Only at specific times could horses be brought into the Bartang valley by using trails along the banks of the river at low water, and often changing banks by swimming across (Bliss 2006, 42–43).

The adventurous stories of travellers in the region vividly depict problematic journeys along the *owringi* ("foot paths leading along the slopes and cliffs" [Bliss 2006, 184]) and of crossing fast-flowing rivers on precarious bridges or with traditional flotation devices made of inflated animal skins. Given the challenges posed by such journeys, the Pamiris were said to be particularly strong and fit. Bliss explains:

> One must not forget that these paths were the only passages to whole valleys and everything the people needed had to be carried in their hands or on their backs over the owringi. This includes such things as iron stoves, building wood, sacks of grain and even calves and sheep or goats to be sold or else brought back from the market. With loads of up to 100 kg, such as the Pamiris still transport on their backs, the use of the owringi represents an impressive, even artistic achievement (2006, 185).

At least one Russian author emphasised the strong physical condition of the Pamiris (Louktniski 1954, 219), offering interesting insights into accessing the Pamirs during the Soviet era. Although Louktniski praises the Soviet Union's accomplishments in a very partisan way, we can concede that some of his descriptions might reflect the reality of the time:

> L'absence de routes était une des plaies du Tadjikistan. Jusqu'à la Révolution d'Octobre, il n'existait pas un kilomètre de route dans la Boukharie orientale (Louktniski 1954, 31).[26]

As the quote suggests, the penetration of the Soviet system into the Valley greatly changed the accessibility of the region.

3.3.2. The Soviet era: Construction of roads and implementation of a large-scale provisioning system.

During the Soviet era, Gorno-Badakhshan[27] became much more physically accessible. Louktniski explains that the Russians established an air connection to the Pamirs even before roads were constructed (1954). The first plane arrived in the region in 1929 and a proper airport was built in Khorog in 1932 (Remtilla 2012, 53).

> Se rendre en avion au Pamir eut été un rêve audacieux, il y a encore vingt-cinq ans, mais c'est de nos jours une simple course d'affaires qu'accomplit en quelques brèves heures quiconque ne veut pas perdre de temps en un voyage long et difficile (Louktniski 1954, 23).[28]

The Russians—and later the Soviets—also started the construction of roads to the region in order to reduce its marginalisation and to establish their administrative powers. Bergne explains:

> Given the extreme remoteness and inaccessibility, especially for the Autonomous Region of Mountainous Badakhshan (GBAO), the fledgling Soviet state was unable to mount effective patrols or controls until the mid-1930s (Bergne 2007, 92).

Before the construction of the Pamir Road, a caravan road from GBAO to the city of Osh (now in Kyrgyzstan) had been widened for horse-drawn carts in 1900 and since the 1920s became accessible by car. The construction of roads for gas-powered vehicles during the Soviet era gradually made provincial and national mobilities much more accessible to the residents of the Pamirs.

The creation of the M41 Highway reinforced the penetration of the Soviet system in the region. The M41, often referred to as the Pamir Highway (and previously known as "the great Stalin road" [Louknitski 1954, 224]) links Dushanbe,[29] the capital of Tajikistan, to Osh, the second most populated city in Kyrgyzstan. In the Pamirs, the highway traverses Khorog, the administrative centre of the VMKB, and the town of Murghab. The Osh-Khorog section opened

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[26] "The absence of roads was one of Tajikistan's plagues. Until the October Revolution, there was not a kilometre of road in Eastern Bukharia" (translation by the author). Eastern Boukharia refers to the Eastern Part of the Emirate of Bukhara.

[27] Since I am talking here about the Soviet era, I use the Russian "Gorno-Badakhshan" instead of VMKB.

[28] "Flying to the Pamirs would have been a daring dream twenty-five years ago, but nowadays it is a simple business trip that can be completed in a few short hours by anyone who does not want to waste time on a long and difficult journey" (translation by the author).

[29] Dushanbe was called Stalinabad during the Soviet era.

in May 1935 after a bit more than a year of work (Kreutzmann 2015, 119). When the M41 opened, the Akbaital Pass (4655m) was "the highest pass ever crossed by a motorable road" (Kreutzmann 2015, 117). Mostowlansky explains the importance of the event: "Only when parts of the Pamir Highway were finally opened in 1933, after several years of frustration, did Gorno-Badakhshan [VMKB] finally overcome its role as a "deserted" and "inaccessible periphery", as seen from a Soviet perspective" (Mostowlansky 2017, 40). The Dushanbe-Khorog section, which is situated on a lower but steeper terrain, was completed later. The New York Times issue of September 12, 1940 announced that "Soviet Opens Mountain Road" (New York Times, Sept. 12, 1940), which underlines how noteworthy the construction was at that time. Louknitski explains that the construction of the 567-kilometre road (Dushanbe [Stalinabad]-Khorog) was approved in 1940 and—thanks to considerable effort made by local workers—the road was constructed in only 120 days, much faster than expected (Louktniski, 213). The construction was collective, engaging the skills of many inhabitants. Louknitski's description of life in the Pamirs before and after the highway clearly show how the construction was instrumental to the colonisation of the region by the Soviet administrative system: "Ainsi s'affermissait le pouvoir soviétique, surmontant l'obstacle des sauvages montagnes, des ténèbres séculaires et de milliers d'autres barrières" (Louknitski 1954, 230).[30] The Soviets urgently needed to secure the accessibility of the region for security and surveillance purposes. In 1939, the M41 was extended south of Khorog to the town of Ishkashim, an important strategic point for the surveillance of the Afghan border, where a military camp was built (Kreutzmann 2015, 119). Murghab (named Pamirski Post during the Soviet era) was the Soviet military post of the Eastern Pamirs for the surveillance of the borders with China and Afghanistan. Ever since its construction, the M41 has been the main artery of the region. It enabled the first vehicles in the region, the implementation of the Soviet provisioning system, and the arrival of large numbers of workers from all parts of the USSR.

The Pamiris were travelling and trading goods and products with their neighbours long before the construction of vehicle roads in the region. The sedentary population of the steep valleys of the Western Pamirs exchanged goods with the nomadic Kyrgyz population of the Eastern Pamirs plateaus. The Kyrgyz were trading in places such as Kashgar (China), a five-day trip from Murghab by horse (Mostowlansky 2017, 41). Even if the pre-road period is perceived as one of poorer life conditions and food scarcity, some of my interviewees in the Pamirs also expressed nostalgia about a (fantasised?) time when the Pamiris were consuming only local products and therefore enjoying a "longer and healthier life" (quote from an interview in Bartang, June 2018).

During the Soviet era, the Pamiris were mainly consuming products grown, made or manufactured in other Soviet republics. Once roads were completed in the region, but especially after the 1960s, the Moscow provisioning system or *moskovskoe obespechenie,* controlled and organised from Moscow, was implemented (Mostowlansky 2017, 42). Mostowlansky explains that this system provided the Pamiris with more "access to high-quality consumer goods, educational opportunities, and higher salaries and pensions" (2017, 42) than many other areas

[30] "Thus Soviet power was strengthened, overcoming the obstacle of wild mountains, age-old darkness and thousands of other barriers" (translation by the author).

of the USSR, in an effort to make inhabitants of peripheral areas feel included in the Union (see also Saxer 2019). Other parts of the Pamirs, and especially the regions that shared a border with Afghanistan, enjoyed particular privileges since the region was considered a "display window" of Soviet communism for neighbouring Afghan populations (Bliss 2006, 247). To make these regions attractive, imported products came through Osh, which was a hub of the centralised provisioning system (Saxer 2019). As Saxer writes, "food, clothes and shoes, tools and petroleum products would arrive by train and then be transported onward along the Pamir Highway all the way to Khorog" (Saxer 2019, 192). A connection was made to the Bartang Valley through the Kok Jar Pass in the Eastern Pamirs (see Fig. 5) along a very narrow mountain road.

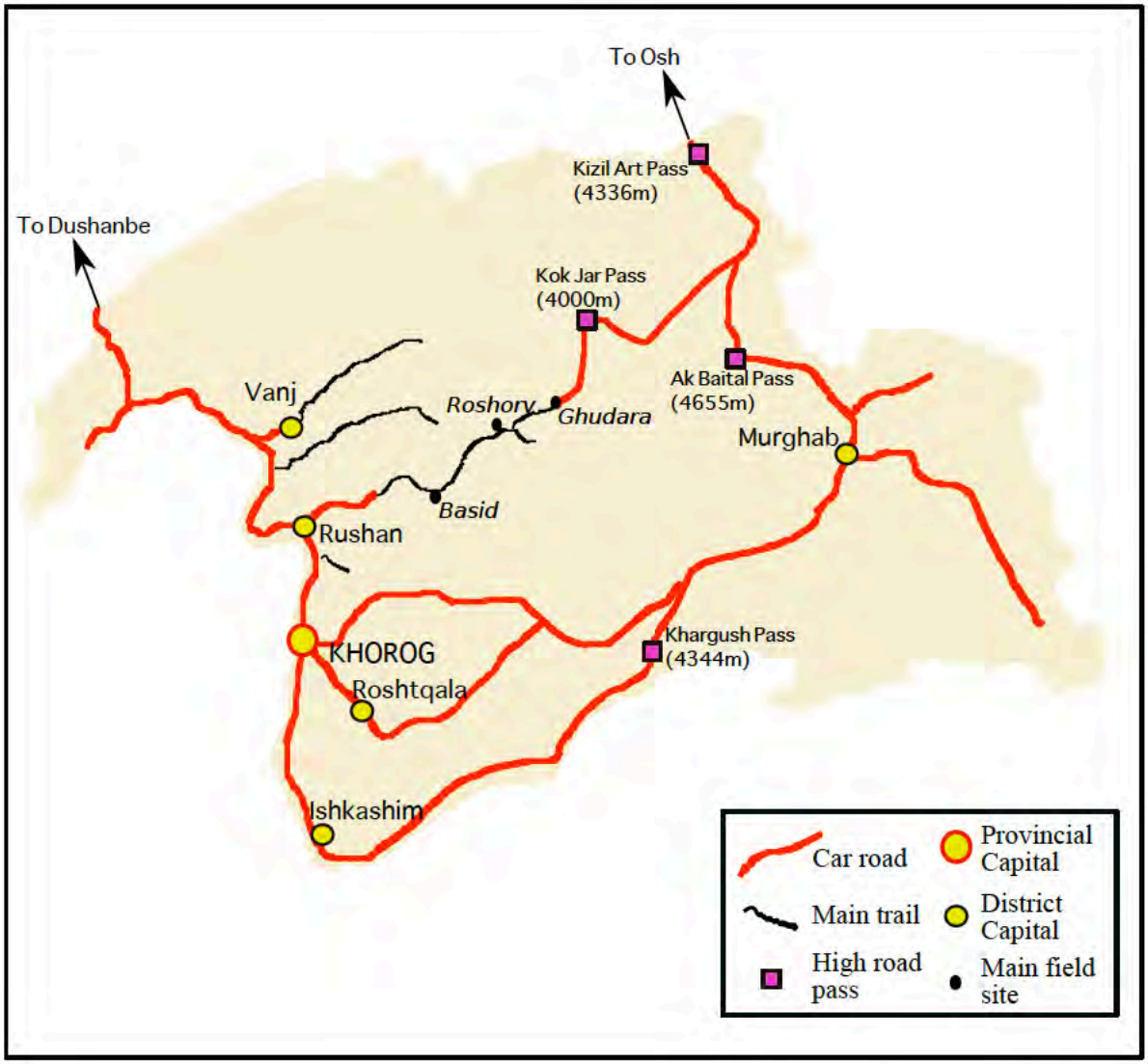


Figure 5: Car roads in the Gorno-Badakhshanskaya Avtonomnaya Oblast in 1986. From the Russian "Tourist Map" of 1986 (F.G. Patrunov, Po Tadzhikistanu, Profizdat, Moscow, 1987). Thanks to Markus Hauser, the Pamir Archive http://www.mountaincartography.org/publications/papers/papers_nuria_04/hauser.pdf © S. Blondin

Although roads restructured the entire region, populations living at a distance from them remained marginalised. The construction of the Bartang road began from the east during the Soviet era in order to link the valley with Murghab and Osh. The Bartangis had to wait until the 1990s to be fully connected to the M41 in Rushan (the western side of the valley, on the Afghan border). Local residents claim that most parts of the road were constructed with their own hands. Some Bartangi interlocutors told me that the Soviet administration provided them with explosives, but after the collapse of the USSR the road could only be completed with resources available locally. With the absence of roads, travel times were much longer and conditions much harsher, but the Soviet system promoted mobility by encouraging university studies, providing work in different parts of the Union (see Sahadeo 2019), and offering the GBAO [VMKB] a better connection with the rest of the Tajik Republic—and the USSR in general—

through the implementation of a postal system, a telecommunications system, and the use of helicopters. At that time, low fares throughout the Soviet Union also enabled easier and more egalitarian access to mobility (Sahadeo 2019).

Following the collapse of the USSR, much of the infrastructure became dilapidated due to a lack of maintenance. Given the importance of the provisioning system organised from Moscow, the demise of the Soviet Union in the region has been particularly hard to face for the population. Accessibility issues were soon aggravated by civil war.

3.3.3. The post-Soviet period

In the months and years following the demise of the Soviet Union, the mobility, administrative, and economic situation in Tajikistan was rather typically post-colonial, as roads maintained by an economically powerful colonial state slowly deteriorate after its withdrawal (see for example Porter 2012 in the case of Ghana). Although the use of the terms colonial/post-colonial in the Soviet context is questionable, it is clear that the collapse of the political system under which roads were built, transport systems managed, and a large-scale provisioning system implemented led to national socioeconomic turmoil that can still be felt today. As Mostowlansky sums up:

> Due to the region's location at the border of once hostile Afghanistan and China, Gorno-Badakhshan received generous state supplies and experienced a period of relative prosperity from the 1960s onwards. Contrasted with the post-Soviet tragedy of the Tajik civil war from 1992-1997, this period of prosperity makes Soviet rule retrospectively appear as utterly positive and uplifting from a Gorno-Badakhshan point of view (Mostowlansky 2014, 191).

As Saxer notes, "the nexus of remoteness and connectivity is anything but stable, it evolves over time" (2019, 189). The transition from the Soviet Union to the independence of Tajikistan has implied a profound change in terms of regimes of mobility and territorial inclusion, and remoteness "returned" (Saxer 2019, 188) after the Soviet period. In the recent history of Tajikistan's Pamirs, it is clear than different political regimes have managed physical constraints and accessibility in very different manners, and remoteness has been experienced very differently at different periods. While the residents of the region may have felt very included into the Soviet Union given the influence of the State at that time and the services it provided in terms of mobility and provisioning, they nowadays can't relate to the State in similar ways because it does not allocate the same ranges of services. Among the difficulties the Pamiris faced after the collapse of the USSR, the breakdown of mobility infrastructure was at the forefront. Bliss, who travelled in the Pamirs in the 1990s as part of a humanitarian project organised by the Aga Khan Development Network, explains the difficulty of accessing the region and providing humanitarian assistance at that time. The lack of maintenance after the collapse of the USSR and during the civil war greatly reinforced accessibility issues:

> …many villages in the Western Pamirs can only be reached using tracks which in winter are impassable for months on end. Between 1993 and 1998 there were additional problems (some of which still exist today): bridges became impassable, tracks were blocked by mudslides, rock fall or landslides, or, as was the case in the Bartang valley, were undermined by the river and collapsed. In these instances, the

> main HAP (Humanitarian Assistance Programme) had to be supplemented by emergency measures to rebuild the infrastructure. If our information is correct, between 1995 and 2003 more than a hundred bridges of varying sizes were repaired from PRDP funds. It is not known how many times damaged roads had to be repaired (Bliss 2006, 300).

Bliss explains that it was impossible to provide humanitarian assistance to the most remote settlements, which meant that in some parts of the Bartang, Ghund, or Shakhdara valleys, residents were still transporting products by donkey or on their own backs (2006).

The region is still considered the "least economically developed and the most isolated region of the republic" (Abdullaev and Akbarzadeh 2010, 241) and remains greatly dependent on products and money transfers coming from abroad and from other parts of Tajikistan. As flights to Khorog have been suspended since 2017 (and were both scarce and uncertain prior to that, depending on the number of passengers and weather conditions), travel to the region is made from Dushanbe through the city of Kulob, from Kyrgyzstan through the Sary-Tash border, from China through the Kulma Pass border point (not open to foreigners), and from Afghanistan by bridge over the Panj River (Mostowlansky 2017). All passengers and products coming to the region arrive by road.[31] There are no public transportation connections to the region so passengers travel with private vehicles and mostly with shared four-wheel vehicles (used as shared taxis), which can handle long trips on bumpy roads exposed to rockslides, avalanches, and floods. At certain times of the year, even though the number of private vehicles has increased, finding a seat in a car from Dushanbe and Khorog remains difficult, and although some portions of the road have been renovated, the usual travel time between Dushanbe and Khorog still ranges between twelve and fifteen hours.

Today, the renowned remoteness of the region is still often used to explain its political and cultural particularities, economic poverty, and high rate of out-migration, but is also promoted in touristic brochures and advertisements for the pristine landscapes "offered" by such remote valleys. During the COVID-19 global pandemic, some of my local friends praised the remoteness of their region as a protector against the virus.[32] Examining remoteness was one of the starting points of this research, and the Bartang Valley was chosen as the main field site because its physical remoteness enables an understanding of the political marginality of the region and how socioeconomic vulnerabilities emerge and are managed. This dissertation reflects on the fluctuating notion of 'remoteness' and shows that feelings of being 'remote' or 'isolated' are highly subjective and depends on individual experiences of mobility and immobility. For instance, individuals who have experienced an easier access to mobility opportunities during the Soviet era may now feel a certain return of remoteness, while younger generations don't articulate remoteness in similar ways. By focussing on mobilities, this work attempts to overcome the narrow notion of 'remoteness'.

In sum, the accessibility of the Pamirs of Tajikistan has changed rather quickly and moved in different directions over the last hundred years, from no road and no motorised transportation

[31] With the exception of national and international official delegations or humanitarian convoys.
[32] See: https://www.laender-analysen.de/zentralasien-analysen/141/der-blick-vom-pamirgebirge-in-tadschikistan-auf-eine-globale-pandemie/

before the arrival of the Russians, to the construction of roads and implementation of a public transportation system during the Soviet era, to the return of remoteness after the demise of the USSR. Nowadays, the poor state of roads, lack of flight connections and public transportation, and low motorisation rate still pose a challenge to the accessibility of the region and participate in its sociopolitical marginalisation. Although "remoteness" and "marginality" are highly subjective concepts and fluctuating processes, their exploration has served as a basis to study (im)mobilities and particularly mobility potentials in the Bartang Valley.

Figure 6: Oshtorxona, on the road between Basid and Roshorv. July 2017. © S. Blondin

Figure 7: Oshtorxona, on the road between Basid and Roshorv. January 2018. © S. Blondin

Figures 8 and 9: Walking on the flooded road between Roshorv and Basid. July 2017. © S. Blondin

Figure 10: Walking on the road between Roshorv and Basid. January 2018. © S. Blondin

3. 4. CONCLUSION

This chapter introduced the Bartang Valley and situated it in its broader geographical, political, and historical contexts. The residents of the Bartang Valley suffer from an array of socioeconomic vulnerabilities including food insecurity, energy poverty, and lack of access to healthcare. Since the demise of the Soviet Union, residents have had to find ways to navigate through and to endure such vulnerabilities. Labour migration—mostly to Russia—has become a forefront phenomenon in the Valley, which is highly dependent on remittances sent by migrants. Other mobilities within their province and within Tajikistan help the Bartangis sustain their livelihoods. However, despite increasing mobilities and connections, the VMKB province (where the Bartang Valley is located) remains highly marginalised within Tajikistan. Occasional tensions between the inhabitants of the region and state authorities highlight the distinctiveness and marginality of the province. In addition, the VMKB's low physical accessibility, particularly to rural valleys such as the Bartang Valley, have multiple impacts on local livelihoods in terms of relations to the state, identity, and mobilities. This introduction to the region's remoteness serves as an entry point to this research on vulnerabilities, attachment, and (im)mobilities. Low accessibility and frequent mobility disruptions in rural areas that are dependent on circulation within the province and on labour migration put the issue of (im)mobilities at stake. The next chapter will present the main research questions and the theoretical framework which has enabled a deeper examination of the issues introduced here.

4. THEORETICAL FRAMEWORK

This chapter presents the theoretical framework adopted in this dissertation. It aims to explain and support the conceptual choices made over the course of this research. Starting with an overview of the field of environmental migration, I then introduce the first article included in the dissertation which reviews the current state-of-the-art on environmental migration in Central Asia. This article leads to a theoretical exploration of the *mobilities paradigm* and of the *mobility justice perspective*, and to a discussion of their value for studying links between human mobility and environmental issues. The theoretical approach centred on potentials and aspirations is also defended through the adoption of a relational view on mobility and immobility and the use of the concepts of motility and place attachment.

4. 1. ENVIRONMENTAL MIGRATION: AN OVERVIEW OF THE FIELD

4.1.1. The emergence of the field

The body of literature on environmental migration, climate migration, and climate refugees has developed significantly since the end of the 1990s and especially since the early 2010s. Although human sciences have a long history of examining the relationships between people and their surroundings, including the way they practise mobilities depending on the territories they inhabit, interest in the "natural" and the "environmental" has somewhat declined in the second half of the 20th century (Piguet 2013). This could be explained by the fact that so called "nature" was considered to have been "surpassed", determinism to be backward, and economic and political theories were gaining ground in migration and refugee studies (Piguet 2013). But since the 1980s and, more significantly, since the 1990s, the growing interest and media coverage of climate issues have encouraged studies on the links between climate and migration.

Research on environmental migration has addressed "environmental" factors for migration. It has sought to understand the underlying mechanisms of out-migration in relation to environmental issues and has endorsed most categories, ideas, and concepts of the broader literature on migration. For instance, it has adopted notions of forced or voluntary migration, refugees and migrants, internal and international migration, and long- or short-term migration (see Castles 2002; Piguet 2018; Nash 2020). The effect of the environment on migration is considered more or less direct depending on the environmental issues at play (Cattaneo et al. 2019). The relation is usually regarded as direct in the case of destructive rapid-onset disasters leading to "forced" migration and indirect when environmental conditions alter economic or social conditions. In the latter case, the environment exacerbates the migration mechanisms which migration studies have long brought to the fore from economic factors including income differentials, conflict, human capital, personal aspirations, and values or geographic imaginaries (Castles 2002; Piguet 2018). Thus, environmental migration scholars have gained inspiration from voluntary migration studies and from forced migration studies, adopting the voluntary-forced dichotomy even though it lacks a strong analytical distinction (see Piguet 2018; Nash 2020). Although environmental migration studies and migration theories in general have a lot in common, as Piguet notes, forced migration and refugee studies should make stronger

connections to the "main stream of migration theories" (2018, 25) and "additional work is needed to re-embed the environment more firmly within migration theories" (2013, 148).

The work of Myers (1997; 2002) has drawn attention to the phenomenon of "environmental refugees" in a rather alarmist way. According to his research, there could emerge up to two hundred million environmental refugees "when global warming takes hold" (Myers 2002, 609). Many studies have adopted similar alarmist discourses of climate-induced migration, considering it a fast-growing global problem, and predicting ever-increasing numbers of individuals migrating due to adverse consequences of environmental degradation (see McLeman 2011 and Piguet 2013 for critical reviews). Recently, several authors within the field have argued against the negative effects of predictions of "environmental migrants". These predictions often rely on highly disputable methodologies and are accompanied by securitisation discourses and an oversimplification of the relationship between the environment and mobility (Boas et al. 2019; Nash and Zickgraf 2020).

Counting "environmental migrants" also directly puts into question their exact definition. The terms *environmental refugee* or *climate refugee* received swift critique for having no legal relevance—to this day, according to the 1951 Geneva Convention asylum cannot be granted for environmental reasons—and implying a monocausality in migration that overlooks the agency of migrants (see Cattaneo et al. 2019; Parsons 2019). More sceptic discourses on the climate-migration nexus emphasise that migration cannot be the result of one factor only (see Black 2001), and that migration should not be treated as abnormal and harmful from a sedentary perspective (Black et al. 2011; see also Castles 2010).

4.1.2. The rise of empirical studies

Although preliminary research on "environmental migrations" was rather prospective, quantitative, and theoretical, case studies have brought complexity to the climate-migration nexus (Piguet, Kaenzig, and Guélat 2018). Some studies use qualitative methods to connect environmental indicators and migration through individual perceptions and experiences (see for instance Mortreux and Barnett 2009), while others have focused on the relationship between quantitative migration indicators and climate variables (Findley 1994; see Piguet 2010 for a review on methods). Qualitative methods have enabled the inclusion of individual perceptions of changing climate conditions—and how mobility is practised accordingly—which serves to humanise so-called climate migrants (Adger et al. 2013; see Parsons 2019). This re-humanisation implies an increased interest in how populations perceive and respond to environmental risks depending on "culture, identity, community cohesion and sense of place" (Adger et al. 2013, 112). The subjectivities and positionalities of individuals mediate the way they consider what constitutes risk or disaster and to what extent they consider mobility as a solution (Parsons 2019). More broadly, the development of qualitative case studies within the field has led to more thorough explorations of the agency of migrants and of the multicausality of migration trends and has revealed the difficulty in determining the role played by environmental issues in "environmental migration". This has led to (self-)critiques of the research field, of the notions and concepts mobilised, or of methods used to assess the impacts of environmental issues (see Oliver-Smith 2012; Parsons 2019).

The climate-migration nexus has often been explored through the perspective of vulnerability, resilience, and adaptive capacity (Kaenzig 2015; Gemenne and Blocher 2017; Adger, Safra de Campos, and Mortreux 2018). People migrate due to environmental issues if they are vulnerable, not resilient enough, or don't have sufficient adaptive capacity to stay. These notions help to take into account socioeconomic and political factors influencing decisions to move, and to incorporate structural inequalities. Some researchers have also addressed the potential of migration as an adaptation strategy in a context of environmental variability (Barnett and Webber 2010; Black et al. 2011; Gemenne and Blocher 2017; Adger, Safra de Campos, and Mortreux 2018). When faced with environmental issues, populations may choose to move to safer places as a way to avoid future adverse impacts of climate variability, or in some cases, a household member migrates in order to help relatives or other community members to adapt to changing climate conditions through financial remittances. However, some researchers have shown that the promotion of migration as an adaptation strategy might be hazardous, as it risks depoliticising the issue by insisting on the individual's responsibility to move rather than addressing aspirations and potentials in terms of adaptation or the root causes of vulnerabilities (Bettini 2014; Bettini, Nash and Gioli 2016; Suliman et al. 2019). Some populations might choose not to move, and some might lack resources to do so (McNamara et al. 2018; Suliman et al. 2019).

4.1.3. (Im)mobilities of different natures

Case studies on the effects of environmental degradation on human migration have demonstrated that in some contexts, environmental issues can also impede mobility (Murphy 2014; Nawrotzki and Bakhtsiyarava 2017; Nawrotzki and DeWaard 2018). They show that a decrease in agricultural income after droughts, for instance, might discourage international migration (Nawrotzki and Bakhtsiyarava 2017). Such results have led to a growing interest in climate-induced immobility. The Foresight Report (2011), which explores links between changing environmental conditions and global patterns of human migration, first suggested the notion of *trapped populations*, referring to populations unable to move because of environmental disasters. This notion gained attention by highlighting that forced immobility may result from environmental variability. However, the notion does not offer a thorough conceptualisation of immobility and does not incorporate the case of populations which aspire to stay and struggle to adapt. Ayeb-Karlsson, Smith, and Kniveton (2018) explain that we should avoid labelling all immobile populations as "trapped" since they may have chosen to be immobile. Immobility and migration cannot be considered problematic if we do not fully address a population's migration aspirations. Mobility and immobility can both voluntary and involuntary. However, in environmental migration studies within broader migration research, the voluntary-involuntary dichotomy is challenging to apprehend since it requires a thorough examination of decision-making processes, capacities, risk perceptions, or knowledge and awareness of available alternatives (Ottonelli and Torresi 2013).

Characterising environmental (im)mobility and its level of coercion or preparation is challenging because it may result from environmental hazards of very different natures. Some result from rapid-onset disasters such as destructive flash floods or storms, which push people to migrate as an emergency response, often without being prepared. In these cases, the move is

unprepared and involuntary. Slow-onset hazards such as droughts or desertification can allow people to organise their move in a more proactive way (Ionesco, Mokhnacheva, and Gemenne 2016). Depending on the emergency of the situation, resources available, and aspirations, individuals may prioritise small-scale displacements, internal or international migrations. The household can also decide to send one member elsewhere as an economic strategy to face or adapt to adverse effects of climate variability. Studying cases such as these brings complexity to the issue and shows the importance of integrating various temporal and spatial scales within research frameworks, as well as elaborating on individual subjectivities and structural inequalities (Parsons 2019).

4.1.4. Geography of the field

The Climig database, a bibliographical database developed at the University of Neuchâtel[33], helps to analyse research tendencies within the environmental migration literature. Climig was founded in 2015 under the lead of Étienne Piguet. I have been participating in its maintenance since 2016. As of today, the database comprises 1735 articles. From 2003 to 2012, the database shows a strong increase in publications on the climate-environment nexus. After 2012, the number of publications has slowly started to decrease. As the database shows, "environmental migration" has raised interest among law researchers around issues of legal protection of—and responsibility for—environmental migrants and potential stateless populations. Some studies also adopt specific sociopolitical focuses such as gender, conflict, or migration as adaptation. Case studies are numerous (about 800) and use various kinds of methods, from large-scale quantitative surveys to small-scale ethnographic and qualitative methods (see Piguet 2010 for a review). Sea-level rise in the Pacific Ocean has raised much scholarly attention, with multiple case studies in Kiribati, Vanuatu, Tuvalu, or Fiji, as many small island states are under threat of disappearing in the coming decades due to the effect of global warming. The case of Hurricane Katrina in the USA (2005) has also been the focus of many studies exploring environmental displacement from political, social, and economic perspectives. Other case studies have been developed in various areas of the world, and on various eco-regions such as coastal regions, mountainous areas, drylands, or rainforests. However, some regions of the world still remain largely understudied (Piguet, Kaenzig, and Guélat 2018).

This brief overview identifies the main research tendencies and the complexities and limitations of environmental migration literature. It also highlights the need to examine the phenomenon in a multifaceted way, on different scales, enhanced by a variety of mechanisms shaping migratory decisions and influencing choices of destination. The article presented in the next section discusses such complexities in the context of Central Asia, a largely understudied region in terms of environmental migration.

4. 2. ARTICLE 1: ENVIRONMENTAL MIGRATIONS IN CENTRAL ASIA: A MULTIFACETED APPROACH TO THE ISSUE[34]

[33] https://climig.com/

[34] This article was published in the *Central Asia Survey* in September 2018 (online). It features in Volume 38, Issue 2 (2019). DOI: 10.1080/02634937.2018.1519778

4.2.1. Introduction

This chapter presents the first article of this research, which was developed as an overview of the field of environmental migration in Central Asia, where the fieldwork of this doctoral research is located. Even though the main sources of this work are peer-reviewed articles and reports from international organisations on climate variability and related social consequences potentially leading to displacements or migrations, it also includes preliminary insights from the fieldwork. The literature on this topic in Central Asia is meagre, which is why field observations were included in this literature review. On the theoretical level, this paper broadens the issue of environmental migration by introducing interconnected issues such as accessibility, maintenance of transportation infrastructure, agricultural rentability, food insecurity, and aspirations and potentials in terms of migration. Therefore, this article lays the foundation for the research and provides an introduction to issues further developed in the other articles presented in this dissertation. It was published in September 2018 in *Central Asian Survey*, a prominent academic journal of Central Asian studies. This article is followed by a subsection (4.2.10) which offers post-publication reflections and critically reviews the article three years after its publication.

4.2.2. Abstract and keywords

Increasingly, studies are considering Central Asia a 'hot spot' of climate change and a region prone to environmental migrations. Growing aridity and the shrinking of glaciers may have important impacts on food security, health, human security and infrastructure in the region and compel people to move. Drawing on the literature on environmental issues in Central Asia and on interviews conducted in the Kuhistoni-Badakhshan Autonomous Region of Tajikistan, this article provides a literature survey on environmental migrations in the region and positions Central Asia in the current debates within the broad environmental migrations literature. The article shows that environmental issues can stand out as an important push factor for out-migration in Central Asia, highlights the important role of the Soviet heritage of environmental management as well as of post-Soviet socioeconomic transformations in understanding these issues, and discusses possible adaptation strategies.

- Keywords: Central Asia; climate; adaptation; migration; mobility

4.2.3. Introduction

Recent reports and studies have demonstrated the link between environmental degradation and migrations in Central Asia: among them, we can find the EACH-FOR's reports (Environmental Change and Forced Migration Scenarios), the reports of the International Organization for Migration (IOM), and the 2010 report by the United Nations Population Fund, *Emerging Population Issues in Eastern Europe and Central Asia: Research Gaps on Demographic Trends, Human Capital and Climate Change*, which dedicated an entire chapter to the question of 'population and climate change' (Lutz 2010). In the EACH- FOR project, the cases of Kazakhstan, Kyrgyzstan and Tajikistan were studied among 23 cases globally, all

considered climate change hot spots[35]. These reports outline that 'environmental degradation is certainly a primary force for migration' (Khakimov and Mahmadbekov 2007). Central Asia is not only exposed to the variability of the global climate but is also very sensitive to the negative consequences thereof. The Intergovernmental Panel on Climate Change (IPCC 2014) definition of climate change vulnerability is characterized by three main factors: exposure, sensitivity and adaptive capacity. According to the World Bank's 2009 report on adaptation to climate change in Europe and Central Asia when the three vulnerability components are combined for the Europe and Central Asia Region, Tajikistan ranks first, Kyrgyzstan third and Uzbekistan sixth. In the introduction to *Environmental Crises in Central Asia*, editors Freedman and Neuzil (2015) state that 'the Central Asian environmental status is one of the worst in the world' especially because of the legacy of short-sighted policy (including the Soviet legacy of irrigation systems and infrastructure) and because of a lack of political involvement and the impossibility of activism. Furthermore, Central Asia is well known as a region of out-migration. According to the IOM, large-scale labour migration is a major phenomenon in the region. The 'IOM Central Asia Operational Strategy 2014–2019' indicates that 'up to 27% of the population of Uzbekistan, 18% of the population of Tajikistan and 14% of the population of Kyrgyzstan are migrant workers'[36], especially in Russia and Kazakhstan. What are the main push factors of these 'labour migrations'?

Though Central Asia appears to be particularly vulnerable to environmental degradation, and despite the importance of out-migration in the region, it still occupies a blind spot in academic research on environmental migrations (Ionesco, Mokhnacheva, and Gemenne 2016; Piguet, Kaenzig, and Guélat 2018). The CLIMIG database[37], which has amassed approximately 1300 articles (as of May 2018) on environmental displacements and migrations globally, only identifies two articles about Kazakhstan, two about Kyrgyzstan, two about Tajikistan and none concerning Turkmenistan or Uzbekistan.

This article intends to position Central Asia in the current debates within the environmental migrations literature by raising the issue of the possible environmental push factors of migrations in the region and by outlining their historical and political dimensions. It draws on the theoretical literature on environmental migrations as well as on articles coming from studies of climate change, migrations, (im)mobility, environmental justice and the physical and political accessibility of territories. This helps contextualize environmental migrations in Central Asia by looking at the issue with a wider angle. It also allows suggesting ways to fill the gap in knowledge about climate-induced migrations in Central Asia, by building bridges between environmental studies, mobility/migrations studies and development studies. The bibliographical research was done in English (and to a lesser extent French) to assess the place

[35] A climate hot spot can be defined as a region 'where climate change signals overlap with vulnerable communities' (De Souza et al. 2015). The case-studies of EACH-FOR were chosen based on overviews addressing the region's demographic and socio-economic trends, the political context and relevant socio-cultural aspects, the environmental degradation and the migration processes (Jäger et al. 2009).

[36] http://www.iom.kz/images/inform/IOMCAStrategy2014-2019.pdf.pdf.

[37] https://www.unine.ch/geographie/Migration_and_Climate_Change.

occupied by Central Asia in the rather recent international body of literature on 'environmental migrations'[38] . Even if drawing on only English- and French-language sources limits my study, it is worth noting that many of the papers referenced in this article were written by Central Asian researchers (notably studies by the UNDP, the EACH-FOR Project, the IOM and the Ministry for Nature Protection of the Republic of Tajikistan). In the first part of the article, I introduce the ongoing climate change trends in Central Asia and show that the effects of climate change in the region are extremely difficult to predict. Following this argument, I consider the effects of these trends on the demography and territory of Central Asia through the themes of food security, health, and risks of rapid- onset disasters. The final discussion explores possible adaptation strategies to reduce the region's vulnerability and the potential of migration as a means to adapt.

4.2.4. Theoretical background

The conceptual triplet of vulnerability/resilience/adaptation has formed a prism through which the issue of environmental migration is typically approached (Fiske et al. 2014; Klepp 2017). Fiske et al. (2014) define this conceptual triplet as follows: 'Adaptation, initially borrowed from biology, now is broadly defined as the process of developing characteristics that improve chances for survival in a given environment. Resilience and vulnerability serve as measures or indices of the effectiveness, or lack thereof, of adaptive strategies.' Although this perspective has proved to be effective, shifting the gaze away from miserabilism in favour of people's agency and capacity to adapt, some authors point out that the use of these concepts could distract us from the importance of government decisions in a 'climate justice' perspective (Bettini, Nash, and Gioli 2016). Through this optic, literature and concepts from political ecology such as environmental justice can facilitate the study of climate issues from a wider angle. Dominic Stucker (2009), on his article on 'environmental (in)justices' in Tajikistan, demonstrates such a wider angle, stating that the country's governance structures are inadequate and civil society has a very limited influence to ensure political justice because of a lack of open access to information and public participation in the decision-making process. The article defines environmental justice as follows: 'Environmental justice is manifest when every household's right to access and capacity to manage the natural capital necessary to sustain the livelihoods of its members are secured and guaranteed.' Therefore, the critical political ecology body of literature can help consider the political dimension of environmental management, which is particularly relevant for a region such as Central Asia that has endured a great number of political shocks in the last 30 years (the collapse of the Soviet Union, the process of decollectivization, the civil war in Tajikistan, etc.). The political and historical dimensions will guide us throughout this reflection.

4.2.5. Methodology

[38] The atlas by Ionesco, Mokhnacheva, and Gemenne (2016) offers an insightful state of the art on environmental migrations in the world, and the recent article by Piguet, Kaenzig, and Guélat (2018) sheds light on the geography of research on 'environmental migration'.

Taking Central Asia's near-absence from the CLIMIG database as a starting point, I looked at the SCOPUS database[39], which confirmed the lack of available literature on environmental migrations in the region. Therefore, to open the question of the social consequences of climate variability in the region, I broadened the search and review of academic articles, reports, assessments and working papers. The majority of these articles, from large-scale climatic studies to small-scale ethnological works, were written in the last 10 years and highlight the different environmental and migratory issues Central Asia is facing. I also used IPCC reports, 'grey literature' in the working papers and assessments of various international and development organisations, and scientific articles providing interesting theoretical tools to study climate-induced migrations and displacements. I reinforce my arguments with examples from previous fieldwork in the Gorno-Badakhshan Province of Tajikistan from 2015 to 2018 as part of my doctoral research, where the issues of remoteness and food security were explored through semi-structured interviews with residents of the Bartang Valley. Because of this and given that Tajikistan is often described as particularly vulnerable to environmental risks (several studies identify Tajikistan as the poorest, most food-insecure country in Central Asia – World Bank 2009; FAO 2017), this article places an emphasis on that country.

4.2.6. The current climate change trends in Central Asia

Reyer et al.'s (2017) article provides a comprehensive summary of the various climate change impacts in Central Asia despite the scarcity of literature available on the subject. Academic research underlines that there is a significant lack of climatic data, especially since the 1990s and the fall of the USSR (Chevallier et al. 2012; Hagg and Bolch 2015), which makes the effects of climate change highly uncertain in Central Asia. Central Asia is characterized by a semi-arid to arid climate across much of its territory (Lioubimtseva and Cole 2006) and a mountainous climate in the Tian Shan and Pamir Ranges, culminating in Tajikistan with the Ismoil Somoni Peak (7495 m.a.s.l.), allowing a multitude of micro-environments to coexist. However, the main tendencies of climate change in this region are the same as in most arid and/or mountainous regions throughout the world: growing aridity and the melting of glaciers, which result in a variety of natural disasters.

4.2.6.1. Growing aridity

Several studies show that aridity is increasing in Central Asia, although the particular effects of climate change are difficult to measure and predict in the region. In Central Asia, the temperature increase that is anticipated on a global level would clearly result in the increase of evapotranspiration and, consequently, aridity (Lioubimtseva and Cole 2006; Reyer et al. 2017). Water from snow, glaciers and permafrost supplies about 80% of the total flows of the rivers in Central Asia (Kure et al. 2013), and Central Asia has very low precipitation (Lioubimtseva and Cole 2006). Yet the precipitation regime is expected to change in the region, and, as in most regions of the world, the glaciers are melting, and the permafrost is thawing (IPCC 2014). The decrease in precipitation projected for summer and fall (Lioubimtseva and Henebry 2009) would be difficult for the region to handle, as well as the increased evapotranspiration and early

[39] The keywords used for the research were 'environment' + 'migrations' + the names of the five countries under study, one by one.

snowmelt in the Vakhsh and Pyanj Rivers (Kure et al. 2013). Even if some studies underline the uncertainty around such predictions (Sorg et al. 2012), the changing precipitation regime that others forecast would result in a growing risk of drought in some parts of the region.

4.2.6.2. Melting glaciers

The melting of the glaciers of Central Asia will have consequences that are difficult to predict, but research shows that this melting will have substantial impact on the water cycle (Chevallier et al. 2012; Sorg et al. 2012; Hagg and Bolch 2015). The glaciers of the Pamir Mountains, the source of the Amu Darya, have shrunk by approximately 40% in recent decades (Glantz 2005); the decrease is projected to continue here, as well as in the Altai and Tian Shan Ranges (IPCC 2014). As explained by Hagg and Bolch (2015), after an increase of some decades, the meltwater flows would be reduced. Their article presents different melting scenarios: in the most glacial-friendly scenario, there would be a loss of 60% between 1955 and 2100; in the worst, we can expect the total disappearance of the Central Asian glaciers by 2080. All these scenarios predict water shortages in summer and resulting problems for agriculture. Sorg et al. (2012) state that 'by the end of the twenty-first century, however, total runoff is projected to be smaller than today' and that many parts of the region would suffer from unfavourable seasonal distribution. The disappearance of the glaciers would mean profound changes in livelihoods for a region highly dependent on meltwater from snow and glaciers (Mergili et al. 2011).

The melting glaciers, coupled with the growing aridity in the region, could also call into question the management of water between upstream Kyrgyzstan and Tajikistan, and downstream Kazakhstan, Uzbekistan and Turkmenistan. Summer runoff could decrease, resulting in less direct water availability during the vegetation period and water stress for some areas. Rising temperatures and the resulting shrinkage of the glaciers 'will have important implications for the management of surface water storage in the region, and also for the design of international water mechanisms' (Bernauer and Siegfried 2012). Even if this could raise the spectre of international water conflicts in Central Asia, Bernauer and Siegfried (2012) argue that the riparian countries have time to adapt collectively to changes, for instance by targeting water mismanagement and by modernizing current water-sharing institutions.

4.2.6.3. Hydrological disasters

The melting of the glaciers, as well as causing uncertainty and insecurity for the future of downstream countries, is already triggering various disasters in upstream countries. It may lead to fluvial floods or glacial lake outburst floods (Beniston 2003; Mergili et al. 2011; Bernauer and Siegfried 2012; Kundzewicz et al. 2014), with these phenomena themselves possibly leading to landslides, mudflows and erosion (Khakimov and Mahmadbekov 2007; Mergili et al. 2011; Babajanov et al. 2012; Chandonnet et al. 2016). According to the First National Communication of the Republic of Tajikistan Under the United Nations Framework Convention on Climate Change, 'Some 38% of the imminent processes in the republic are landslides, 31% mudflows and floods, 21% erosion processes. Rockfalls, avalanches, riverbank washout, and suffosion make 10% of the processes' (Makhmadaliev, Novikov, and Kayumov 2006). The rapid glacial melting could increase the frequency of such hazards. Another result of the rising temperatures and changing precipitation patterns could be a higher risk of

avalanches (Babajanov et al. 2012; Williams and Golovnev 2015; Reyer et al. 2017)[40]. Earthquakes, although not intrinsically linked to climate change, also severely threaten the mountainous areas of Central Asia and may amplify the effects of natural disasters linked to climate change (Makhmadaliev, Novikov, and Kayumov 2006; Olimova and Olimov 2012).

In summary, various scientific articles, the IPCC and different international organisations' reports agree that rising temperatures and the resulting changing precipitation patterns will have a significant effect on water resources and lead to slow-onset aridification in Central Asia. According to the existing literature, the increasing melting of the glaciers of the Tian Shans and Pamirs may lead to increasing runoff from the main rivers in the short and medium term, triggering floods, mudflows and landslides, while the changing precipitation regime in winter could provoke more avalanches. In the longer term, the melting of glaciers will undoubtedly affect the glacier-fed streamflow regimes of Central Asia, and the population will face a changing distribution of runoff (Sorg et al. 2012). Nevertheless, the different scenarios of climate change and their level of uncertainty show the need to prepare for greater weather uncertainty and unpredictability rather than a defined pattern. The next section will show how these changes might impact local livelihoods and compel some inhabitants to move.

4.2.7. How might climate change reconfigure the territory of Central Asia and encourage migrations?

I will focus here on the topic of food security, and will also raise the issue of health problems and human exposure to sudden disasters, to understand what shapes the environmental push factors in migration trends. In addition to disasters that present a sudden threat to people's lives, slow-onset phenomena also cause human displacements. In the case of these more gradual and less visible phenomena, climate impacts can be viewed as an aggravating factor in the household's decision to migrate, more than the push factor itself.

4.2.7.1. Food security: A central issue

When looking at how environmental issues are impacting a population and can become a push factor of migration, food security is of prime importance (Nawrotzki, Schlak, and Kugler 2016). Food security is threatened when agriculture becomes less productive (when water quality and quantity declines) or when financial or physical access to resources decreases. According to the International Food Policy Research Institute, in 2017, the situation of Tajikistan was classified as 'serious', while Uzbekistan and Turkmenistan were 'moderate', and Kazakhstan and Kyrgyzstan 'low', in terms of hunger issues (Von Grebmer et al. 2017). Food security is therefore still at stake in some parts of the region[41].

-Agriculture: In the five countries I focus on in this article, the rural population makes up a significant percentage of the total population, and in Tajikistan, agriculture represents more than 60% of all employment. This is therefore a very important sector to analyse in order to assess the impacts of climate change on poverty, well-being and food security. Aridity and glacial

[40] The interviews (about 70) I conducted with inhabitants of the Bartang Valley in August 2017 and January 2018 on perceptions of climate change support this trend.
[41] See also FAO (2017).

melting may provoke intense soil degradation, which, in countries where available lands for agriculture are already limited, could reduce agricultural productivity and thus undermine the sustainability of the population's livelihoods (Makhmadaliev, Novikov, and Kayumov 2006; Ashley and Ershova 2012; Kraudzun 2014; Christmann and Aw-Hassan 2015; Closset, Dhehibi, and Aw-Hassan 2015). Glacial melting threatens agriculture since it leads to floods and loss or degradation of agricultural lands during the years of intense melting, and later to water scarcity when the glaciers disappear (Mizina et al. 1999; Makhmadaliev, Novikov, and Kayumov 2006; Kreutzmann 2012; Christmann and Aw-Hassan 2015). Consequently, where local populations have become used to significant water flows, they would need to adapt to a scarcity of water for human consumption as well as for agriculture and livestock (Reyer et al. 2017). The importance of irrigation in agriculture also severely increases the vulnerability of Central Asia to water scarcity (Lioubimtseva and Henebry 2009; Aleksandrova et al. 2014). Reducing the amount of water consumed in irrigation in Central Asia would require a total transformation of water management systems and of the economy for cotton-growing regions.

Yet the consequences of climate variability for agriculture are not only negative. Rising temperatures can offer new opportunities for the coldest regions: northern and eastern Kazakhstan could benefit from a longer growing season (Lioubimtseva and Henebry 2009; IPCC 2014), and higher temperatures could mean more agricultural opportunities at high altitudes (Closset, Dhehibi, and Aw-Hassan 2015). To my knowledge, there are not yet any empirical studies providing evidence of this, but in my recent interviews, some local inhabitants confirmed the positive effects of rising temperatures on the culture of wheat and various fruits and vegetables in the Upper Bartang Valley of Tajikistan on lands at 3000 m above sea level[42]. Improved agricultural productivity could attract immigrants to some regions or at least lower the emigration rate, while reduced agricultural productivity or increased frequency of natural disasters could provoke significant departures from other regions.

-The heritage of dependence and physical access to resources: In some regions, food security is declining not only because of worsening agricultural productivity, but also because access to resources is reduced. This access can be financially limited when sources of income (including remittances from abroad) decline, as well as when resources are physically unreachable. In mountainous regions subject to sudden disasters, roads are regularly blocked due to landslides, rockslides, mudslides, floods, avalanches, and so on, and the protracted immobility they induce can produce further potential shocks to livelihoods and income. The 2016–17 winter brought a lot of snow and blocked numerous roads in the mountains of Central Asia, forcing helicopters to make deliveries to the affected villages, like in the Bartang Valley of the Kuhistoni-Badakhshan Province, where the inhabitants were running short of basic products. Many parts of Central Asia still suffer from the collapse of 'Moscow provisioning' (*moskovskoe obespevhenie*), the system of supply of various goods implemented in Soviet times (Reeves 2014; Middleton 2016; Mostowlansky 2017). As Reeves (2014, 114) states, 'It is a vision in which distance can be dramatically overcome, with goods and people migrating from the centre to particular, selected, provisioned parts of the periphery.' The end of the system has caused

[42] Interviews conducted with inhabitants of the Bartang Valley from 2016 to 2018 on food security.

difficulties in accessing basic products, including food and fuel, in many parts of the former USSR (Kraudzun 2014), with the effects of climate variability on transport infrastructure potentially further exacerbating issues of accessibility.

In sum, food security is very much at stake in Central Asia, and more empirical studies are needed to understand how access to food resources is at risk in many parts of the region and what consequences climate change might have for them.

4.2.7.2. Health issues as a push factor

Floods, poor water quality, water scarcity, droughts and rising temperatures bring many diseases with them (Beniston 2003; IPCC 2014). In the EACH-FOR project's interviews in Tajikistan, some inhabitants of Khatlon Province of south-western Tajikistan underlined the impact of the increasing salinity of the water on growing kidney problems, which they considered one of the main climate-induced issues they were facing (Khakimov and Mahmadbekov 2007). Dysentery, salmonellosis and typhoid fever also accompany floods (World Bank 2009; Olimova and Olimov 2012). Heat waves may cause cardiovascular problems, and droughts respiratory problems or chronic forms of malnutrition, by reducing availability of drinking and irrigation water (World Bank 2009). More generally, rising temperatures increase the number of cases of malaria and other vector-borne diseases (Glantz 2005; World Bank 2009). The health issues brought about by climate variability can also weaken local livelihoods and constitute a push factor for some populations. Yet here also climate change is not the only contributory factor: geopolitical changes, the bad state of irrigation and drainage systems, poor health systems and pollution also share responsibility for these health issues (Makhmadaliev, Novikov, and Kayumov 2006; Anand 2013).

4.2.7.3. Sudden disasters and human security

While displacements following a disaster have not been very well documented in Central Asia, several recent studies highlight sudden displacements in very different parts of the region (Olimova and Olimov 2012). Researchers for the 2016 IOM study on environment, climate change and migration in the Kyrgyz Republic asked 500 households, 'What do you think are the reasons motivating people from your village to migrate?' (only one answer possible), to which 12% answered landslides, 11% drought, 9% floods, 4% land degradation and 3% climate change (Chandonnet et al. 2016). Floods, caused by heavy rains (World Bank 2009) or by the rising level of rivers[43], have been the cause of significant human displacements in Central Asia. The EACH-FOR report for Tajikistan underlines that most emergency human displacements in this country are caused by floods and mudslides (Khakimov and Mahmadbekov 2007). Rapid-onset disasters, especially in mountain regions, might compel people to move.

Several slow-onset environmental tendencies call into question local livelihoods, for example by threatening food security and public health, while rapid-onset hazards can suddenly menace human security, damage infrastructure and urge people to move. This part of the article has shown evidence of these phenomena. Nevertheless, identifying the weight of the environmental factor in out-migration is challenging. People sometimes rather identify

[43] https://www.iom.int/news/ice-melt-triggers-tajikistan-flooding-displacement.

unemployment, low income and lack of access to agricultural land as a push factor, which can all be a consequence of climate variability. This was the case in the Aral Sea zone, where an ecological disaster (a non-climate-induced environmental disaster) depressed economic activity and forced people away (Anand 2013). The next section will show that different solutions can be offered to limit the negative effects of environmental hazards. In some cases, out-migration is considered a suitable adaptation strategy; other times, it is viewed as a failure to adapt.

4.2.8. Towards solutions: which adaptation?

Adaptation measures exist in order to 'improve chances for survival in a given environment' (Fiske et al. 2014) or to maintain one's livelihood. Out-migration is one such strategic response. Development and humanitarian actors initiate projects with the aim of fostering the resilience and adaptive capacity of the populations concerned by environmental risks (ACTED in Tajikistan, UNDP in Kazakhstan, the Aga Khan Agency for Habitat in Kazakhstan, Kyrgyzstan and Tajikistan, etc.). Many studies show that research on the consequences of climate change and environmental migrations has been depoliticized lately (Bettini, Nash, and Gioli 2016; Klepp 2017). Bettini, Nash, and Gioli (2016) find that we have gone 'from an approach based on inherent rights and justice to a self-help approach to climate change adaptation based on resilience and preparedness'. If we take this assessment seriously, we must consider at which level adaptation measures are possible and preferable.

4.2.8.1. Addressing and fostering local knowledge

To explore the human dimension of climate change, it is paramount to address the perceptions that local populations have of climate change, that is, their awareness of global climate change trends and their local consequences. Perceptions are a major factor influencing how populations adopt mitigation or adaptation strategies (Valdivia et al. 2010; Christmann and Aw-Hassan 2015; Bonatti et al. 2016), including out-migration. However, some authors suggest that there is a lack of knowledge about environmental issues among the populations of Central Asia resulting from the lack of environmental justice – the lack of environmental justice itself being a consequence of the lack of knowledge about environmental issues (Shtaltovna 2016). Wooden, Féaux de la Croix, and Gullette (2015) show that the lack of dam criticism in Kyrgyzstan is partly due to a lack of information on alternatives, and Yesdauletova and Yesdauletov (2015) highlight the lack of media coverage of environmental issues in Central Asia, which can help explain this knowledge gap.

Raising awareness of the possible long-term consequences of climate variability can help those concerned adapt today to future difficulties. Barnes (2015), in her study of farmers' vision of climate change in Egypt, explains that the farmers 'concentrate on the present, not looking to a future of potential water scarcity because the current situation is bad enough'[44]. She argues that when studying climate change and its possible consequences, one should consider the different temporal and spatial scales at which change can be experienced. Depending on the context and on the everyday issues a population is experiencing, climate change can be seen as paramount or as a background difficulty. More studies of the local perceptions of climate change

[44] On perceptions of disasters in Tajikistan, see Ibañez-Tirado (2015).

would help not only evaluate the awareness of the people concerned, but also identify the manifestations of climate variability on the ground and the possible adaptation measures.

4.2.8.2. Adaptation at which scale?

Most reports on environmental issues suggest in situ adaptation measures at the local scale that can help people sustain their livelihoods. In Central Asia, the literature mentions possible adaptation options, such as developing water-saving technologies in irrigation, increasing water productivity, changing cropping systems, and so on (Ashley and Ershova 2012). The population could enhance agriculture through more heat- and drought-resistant crops[45] or by addressing the issues of 'insufficiently levelled land; excessive plot size and furrow length and […] soil water retention capacity' (Christmann et al. 2009), and improve livestock breeding through better pasture management or more heat-tolerant livestock (Christmann and Aw-Hassan 2015; Closset, Dhehibi, and Aw-Hassan 2015). However, this might not be enough. Climate change adaptation should also be considered as part of a holistic approach to national organisation, as suggested in the 2012 study by Ashley and Ershova on Kyrgyzstan, which advocates action by both civil society and governments, and which highlights the need to coordinate efforts towards poverty reduction and better food security at the national level. Successful adaptation cannot take place without the combination of technical approaches, rearrangement of institutional settings, and better economic incentive structures (Rowe 2010; Martius and Lamers 2015), to go beyond 'the unsolved problems inherited from the Soviet period: the huge expansion of irrigated areas in the Aral Sea basin; cotton monoculture; insufficient adaptation of the irrigation and drainage infrastructure and management to site-specific and dynamic conditions' (Tischbein et al. 2013). Indeed, the Soviet legacy in many environmental issues is today a central point in understanding how adaptive capacity could be fostered. The post-Soviet socio-economic transformations (retreat of the state and emergence of new international actors, decollectivization, privatization, increasing poverty, etc.) sometimes remain on the back burner when these issues are addressed. Different studies underline socio-economic difficulties linked to decollectivization and post-Soviet rural transition which weaken the environmental resilience of local populations (Rowe 2010; Shtaltovna 2016; Hierman and Nekbakhtshoev 2018) and reduce their adaptive capacity. This is why, as previously stated, an environmental justice perspective can help address the issue of adaptation in a multidimensional way.

If both political leaders and local populations do not adopt in situ adaptation measures, some populations could face severe environmental issues, and some vulnerable regions of Central Asia could be the scene of new out-migration trends (Christmann and Aw-Hassan 2015). I have shown here that local adaptive capacity in Central Asia cannot be boosted only through local-level adaptation measures that put too much responsibility on local populations but above all by solving infrastructural issues at the national level. However, Sakeeva, in her (2016) study on the importance of 'human security to avert wars in the Ferghana Valley', suggests that taking action at the 'grassroots level', turning to the resilience and adaptation of local actors, can be a good approach to face sterile negotiations between states: she argues that 'an alternative to state-

[45] To give an example, Christmann and al. (2009) explain that maize and sorghum can be 'regarded as a suitable crop in ongoing climate change'.

to-state negotiations should focus on communities'. Although important, addressing issues at the most local level might be just the tip of the iceberg.

4.2.8.3. Migration as an adaptation strategy or a failure to adapt?

-Being able to move: The literature on environmental migrations has shown that out-migration (of different kinds) can be considered an adaption strategy when it is a way of diversifying income and securing livelihoods (Gemenne and Blocher 2017). However, not everybody can access migration. To be able to leave for Russia, for example, one needs a significant amount of money to prepare for their departure and settlement in Russia. In addition, various sociological or cultural factors have to be considered to understand migratory flows. The IOM report on Tajikistan contains a statement by an inhabitant of the Penjikent District, explaining that in this area, 'Men cannot leave when their parents are old. They have to stay with their parents' (Olimova and Olimov 2012). The developing concept of 'trapped populations' (Foresight 2011; Adger et al. 2015) could help address situations when migration is desired but inaccessible. Situations of 'forced immobility' can lead to new and original coping strategies to maintain livelihoods (Cook and Butz 2015; Cook and Butz 2016), but they can also severely affect them.

-Choosing (where) to move: In Central Asia, it seems that many people neither choose to willingly leave their place of origin, nor do they choose their places of resettlement, which indicates that out-migration is not always a deliberate, chosen adaptation strategy but can be part of a rapid survival option. Central Asian governments have implemented a number of resettlement and rescue policies[46], and there are numerous international and humanitarian associations in Central Asia, such as the Aga Khan Agency for Habitat, the Red Crescent, or the German GIZ, which handle assistance and sometimes resettlement of populations affected by disasters. The Tajikistani state alone resettles several hundreds of households from hazardous zones every year (Olimova and Olimov 2012). One of the main issues highlighted in the IOM report for Tajikistan is the difficulty of finding convenient places for resettlement. The report, as well as studies by the Internal Displacement Monitoring Centre[47] and the EACH-FOR project, show evidence of people being resettled in places where they didn't feel safe or didn't have any work or activity (Bulesheva and Joldasov 2009; Olimova and Olimov 2012). Problems arising in the place of resettlement tend to lead to an increase of different forms of secondary migrations and movements: seasonal labour migration to Russia, rural-to-urban migration or even return migration to the former place of residence of one member of the family or the whole family, even under the threat of natural hazards (Chandonnet et al. 2016), or to new precarious livelihood strategies (Olimova and Olimov 2012). In the 2012 IOM report on Tajikistan, there is mention of a great number of people in certain villages who were disappointed by their resettlement and who stated that 'in the future they will move independently without looking

[46] In Tajikistan, for example, these matters are dealt with by the Migration, Urbanization and Settlement of Population Department in the Academy of Sciences' Institute of Demography, where the two researchers of EACH-FOR report on Tajikistan work (Khakimov and Mahmadbekov 2007).

[47] http://www.internal-displacement.org

for any support'. For example, Tajikistani authorities moved people to places expected to be flooded by the planned construction of the Rogun hydropower plant in Northern Tajikistan. More than 30,000 residents of nearby settlements would be forced to move by the construction of the dam; some are refusing to leave (Olimova and Olimov 2012). Apparently, as Féaux de la Croix (2016) shows in the case of Kyrgyzstan, there is a lack of dam activism and protest against forced relocations, which fits the description of the situation of environmental injustice in Tajikistan provided by Stucker (2009). This seems to be in keeping with the forced resettlements that took place in Soviet times, for example when mountain populations were moved by authorities to cotton-growing plains (Sodiqov 2013; Kreutzmann 2015, 277).

Some people chose to stay in place even when facing challenging environmental issues. 'Unwillingness to leave the native place of ancestors' is cited multiple times as one of the main reasons for not leaving one's place of origin in the EACH-FOR report on Tajikistan (Khakimov and Mahmadbekov 2007). In other cases, leaving the region of origin is not an option because people rely heavily on family- or community-based solidarity and on membership in social, religious or professional associations to deal with environmental issues. These kinds of solidarity are considered much more important than any solidarity that could emerge from the state or other organisations (Olimova and Olimov 2012). The study of 'sense of place', including 'place attachment' and 'place meanings', addresses these issues and helps us further understand migration trends and aspirations (Masterson et al. 2017). My fieldwork research in the Pamirs of Tajikistan confirms the importance of the *watan* (homeland) for local populations: many people are willing to stay however dangerous their village may be, setting aside environmental risks in favour of the attachment to the land. In a case of necessity, many households relocate as close as possible to their previous place of dwelling, to preserve social and emotional ties to the watan.

-The adaptive capacity of those who stay put: The literature on the potential of out- migration as a means to cope with environmental changes for those who stay put is developing in different parts of the world (Banerjee et al. 2016; Gemenne and Blocher 2017). The few reports and articles concerning Central Asia are not optimistic concerning the potential of migrants' remittances in assisting adaptation. The IOM report on climate change and migrations in Kyrgyzstan says that only 37% of respondents stated that the migrants in their family send them remittances from abroad (Chandonnet et al. 2016). Buckley and Hofmann's 2012 study on remittances in Tajikistan as an effective way for development shows that remittances constitute an important survival strategy for the country but not an 'effective stimulus for Tajikistan's economic development'. Moreover, the relative absence of working-age men in some areas of the five countries might increase the exposure to climate variability and the socio-economic vulnerability of those who stay put (Brown, Olimova, and Boboev 2008; Christmann et al. 2009; Nasritdinov et al. 2010; Olimova 2010; Reeves 2011; Babajanov et al. 2012; Abdurazakova 2013; Scarborough 2014; Chandonnet et al. 2016). For instance, in Uzbekistan, Christmann and Aw-Hassan (2015) showed that out-migration can signify a neglect of rangelands when fewer people are working in the place of origin. Looking at it from another angle, however, we could also argue that the long absences of a significant number of people from the vulnerable areas can reduce the pressure on the land and the resources, which aids livelihood sustainability (a mechanism of the Lewis model of development, which states that

the departure of some parts of the population means greater availability of resources for those who stay – Lewis 1954), but this hypothesis would have to be tested empirically.

Because of the general poverty level, the neglect of some particular areas and the increasing vulnerability of those who stay put, the available literature on the links between climate change and migrations in Central Asia suggests that, to date, out- migration has not greatly helped the region to adapt to the adverse effects of climate variability. Moreover, in Central Asia, many people cannot access migration. Some are forced to move according to national resettlement schemes, and others are unwilling to leave their place of dwelling however dangerous it might be. This section has also shown the importance of a multiscalar approach and a political framing to address environmental issues in Central Asia and the possible adaptation strategies. Apprehending the historical and political context (for instance through the concept of 'environmental justice') enables a multifaceted analysis concerning environmental migrations. To this end, ethnographic studies addressing the 'human face' of the changes and possible adaptation strategies should be coupled with larger-scale studies on the political context and migratory trends (Klepp 2017).

4.2.9. Conclusion

In short, migrations in Central Asia have numerous different causes, and climate variability may be one. The literature on climate change in Central Asia shows that aridification and glacier shrinkage are affecting the region, even if the predictions are characterized by uncertainty. Given the region's strong sensibility and low adaptive capacity, climate variability is a threat for Central Asia and especially for food security, health, and human security. However, climate variability as a push factor should not be overestimated, given that purely environmental migration does not exist, and environmental issues always result from multiple factors. The Soviet heritage of environmental management and the post- Soviet socio-economic difficulties also contribute to a contextualized understanding of the current environmental vulnerability of the region. This article has intended to politicize the discussion of environmental migrations in Central Asia by pointing out the importance of the political, economic and historical context, which is paramount to address the possible adaptation strategies. The affected populations may boost their adaptive capacity by implementing in situ strategies to reduce environmental risks or by migrating. Whereas increasing numbers of studies show that out-migration is a relevant adaptation strategy in the face of climate change in different parts of the world, the literature on Central Asia does not support such results: this article has shown that in the region, environmental migrations occur mostly as a survival strategy after a disaster or as a result of unchosen resettlements implemented by the state. The need for the populations concerned to adapt at the local scale (through the implementation of different water-saving practices or new cropping systems, or by moving to safer zones in some cases) should not distract from the need to implement strategies at the national level (through better water-saving infrastructure, better road management or more efficient resettlement schemes, to mention just a few examples) and to address the question of environmental justice to grapple with the deep root causes of ongoing difficulties. A political framing of environmental migrations suggests that even if the adaptive measures implemented locally are important and can alleviate environmental problems, it is crucial to 'work towards empowering national and local stakeholders' (Stucker 2009) and to

address issues of democratization (Freedman and Neuzil 2015) in order to understand 'the autonomy in adaptive decisions' and the 'limitations on the choices' (Neef et al. 2018). Yet more studies are needed in Central Asia to understand the weight of the environmental factor in the current migration trends and to outline the possible adaptation strategies to environmental stresses (including migrations) at different levels.

4.2.10. Post-publication reflection on article 1

I will now bring forward a short critical analysis of article 1. When reading the article almost three years after its publication, the article appears to sometimes fall in the trap of determinism since it tends to over-emphasise the weight of environmental conditions as a push-factor of migrations and displacements in Central Asia. For instance, when it is stated that "slow-onset phenomena also cause human displacements. In the case of these more gradual and less visible phenomena, climate impacts can be viewed as an aggravating factor in the household's decision to migrate, more than the push factor itself.", it reads like in the case of rapid-onset disasters, the environmental hazard may be the push-factor itself, which is never purely accurate. In some contexts, individuals or households have the financial and/or social resources needed to be able to stay despite a sudden destructive disaster. The use of the term "climate-induced migration" in the article reflects the adoption of a rather determinist view on the relationship between environmental conditions and migration, while other articles in this dissertation have attempted to stand aside from such notions that suggest a direct relation between climatic factors and migrations. For instance, the expression "environmental mobilities" which is extensively used in this dissertation intends to delve into the link between environmental conditions and mobilities without saying these mobilities are solely 'induced' by environmental hazards. Food security, health, and risks of rapid-onset disasters are surely not the only factors making people take decisions regarding migration. The conceptual triplet of vulnerability/resilience/adaptation cannot either explain in detail why people may decide to migrate or not. For instance, the relationship individuals have with their place of residence and/or the community they are part of are also crucial determinants of mobility decisions. While article 1 insists mainly on the push-factors of migration, it only briefly mentions about the pull factors, including individual and cultural phenomena such as place attachment, which may limit or prevent migration even in case of vulnerability, stress and/or danger. The concepts of 'sense of place', 'place attachment' and 'place meanings' will be central in other parts of this work (especially in article 4, chapter 6). Their mention in this article was not enough to balance deterministic arguments but works as an initial entry point to the more complex and individualised mobility issues explored elsewhere in the work. This article, written at the beginning of the PhD research and while the main research questions were still to be defined, has attempted to give insight on the importance of environmental hazards in the decision to migrate. However, the rest of the dissertation tries to step away from such perspective and to rather discuss how environmental hazards form part of complex systems of elements that make humans able and willing to move or not.

This article was written as a state-of-the-art and aimed at giving a general overview of common environmental events in Central Asia and the way they mainly affect livelihoods and may trigger displacements and migration. Such a wide view on complex phenomena has led to some theoretical shortcuts. The literature on which the article is based does not really give

insight into individual perspectives and specific cases. Some of the papers and reports on which the article relies were themselves rather deterministic and sometimes alarmist, and the article should have taken more critical distance towards them. I believe the lack of literature available has initially made me give too much credit to such studies.

In article 1, I have attempted to highlight the importance of incorporating historical and political dimensions of the environment-migration relationships, because the way environmental issues are managed or were managed in the past plays a crucial role in the emergence of environmental hazards and in the way populations may deal with them. This re-politicised perspective was a first step towards less determinism in the environment-migration relationship, but it was surely not enough. A more individual/short-scale perspective on the issues discussed would have helped to bring some complexity and recognise the multiple factors that make an individual or household able and willing to migrate in a context of environmental changes and disaster risks. This is why the case study presented in this dissertation highlights trends that are rather contradictory with those suggested in article 1.

In light of the rest of the dissertation, some particular points raised in article 1 also seem to be simplistic or under-developed because they constitute general statements lacking empirical depth:

- About local knowledge: In article 1, the argument regarding 'local knowledge' actually concerns mostly knowledge of large-scale climate trends, not acknowledging the detailed knowledge individuals may have about the particular places they inhabit. In article 1, the argument I have attempted to make was that in many parts of Central Asia people don't seem to have an easy access to information about global climate change, or precise data regarding climate trends in their country or region. Sometimes, this might be due to the fact that climate research remains limited in these areas, and sometimes due to a disregard of this question by the State and national media outlets. Here, I should have added that populations, especially those practicing subsistent agriculture or herding, usually have a detailed knowledge of local climate tendencies and an intimate relationship with their land and the biophysical elements surrounding them. In the Bartang Valley, I have observed how weather conditions, especially in spring and summer, are central in everyday discussions because harvests highly depend on them, which is a pivotal issue given low food security rates. Residents also have a very sharp knowledge about environmental hazards such as rockslides, avalanches and floods.
- About remittances: The point made in article 1 about remittances would need to be elaborated. The results of my research in Bartang have confirmed that remittances sent by relatives leaving in Russia work as a financial support that help households cover basic needs in terms of food and to cover healthcare expenses or the education fees of students. Many migrants can only send limited amounts of money to their relatives since they want to save money in order to build a house in Bartang when they come back, to get married or to start a business, for instance. Most households in Bartang can't afford to start adaptation works and to purchase equipment or materials which would help them prevent the negative effects of avalanches, rockslides or floods on local infrastructure. For adaptation and disaster risk reduction, residents usually rely on the support provided by international

solidarity networks. When I was in Bartang in 2020 at the onset of the COVID-19 pandemic, I could feel how residents were worried about seeing remittances decline because they constitute a basis to everyday expenses and not because of potential adaptation projects.

I also need to mention here about some notions which are used in article 1 and which are criticised and dismissed in the rest of the dissertation:

- The notions of "natural disaster" and "natural hazard": In article 1, I have used 'natural' as a synonym of 'environmental' which now seems to me like a significant confusion not to be made. While environmental refers to weather-related, climate-related events or geophysical hazards, it seems much more accurate than 'natural', which following the common sense usually characterises an event that "occur[s] in conformity with the ordinary course of nature"[48] and which completely overshadows the causes of such event, including anthropic ones.
- The notion of "disaster" which was here taken for granted, is elsewhere in this dissertation presented as a highly subjective one (see section 3.1.3.). While the term 'disaster' may encompass negativity, calamity, misfortune, and/or distress, the occurrence of an environmental hazard is not lived and experienced in similar ways depending on the cultural framings and past experiences of an individual or community.
- The notion of "trapped populations" which is briefly mentioned in article 1 and presented as a potentially relevant concept to "address situations when migration is desired but inaccessible" will later on in this work be dismissed since it has never been fully conceptualised by the academic literature and tends to adopt a simplistic view on situations of immobility by regarding them as (almost) necessarily involuntary and problematic (see section 4.1.3 and article 5, chapter 7).

In sum, despite its limitations, this article shows some of the complexities of the environment-migration nexus in Central Asia. It has attempted to propose a "multifaceted view" on the environment-mobility relationship by stressing the political and historical dimensions of environmental issues but lacks a more critical and individual view on the issue, which the empirical parts of the dissertation will provide. Some limits and shortcuts present in this work are rather symptomatic of the limits many studies on climate-induced migration are confronted with. I believe that despite these important limits, this article still provides a relevant state of the art on "environmental mobilities" in Central Asia until 2018. The paper should be regarded as a gateway towards more critical and complex views on environmental mobilities and immobilities in the Bartang Valley, which will be at the core of this dissertation. For instance, it has introduced the topics of roads and (in)accessibility as important elements which influence the relationship between the environment and (im)mobilities. As such, this work has led me to step back from environmental migration literature and resulted in a growing interest in the "mobilities paradigm" within the social sciences. Next sections of this chapter will explain how

[48] https://www.merriam-webster.com/dictionary/natural

the theoretical framework adopted in this research has helped to bring more complexity and individuality to the general statements made in Article 1. The aspiration-capability framework and concepts of the mobilities paradigm, which have become central to my research after the publication of this article, have enabled to emphasise individual, lived, and embodied experiences of mobility and immobility in Central Asia, and to reflect on roads, materialities, inaccessibility, and mobility frictions in the context of climate variability.

4. 3. THE MOBILITIES PARADIGM: BROADENING THE DEBATE

Although the main aim of the article in Section 4.2. was to provide a review of literature on environmental migration in Central Asia, it also discussed the multiple ways the environment and migration may interact. The paper explored voluntary immobility (people who don't want to leave ancestral lands) and short-term (im)mobilities due to environmental variability (environmental disasters causing blocked roads, challenging mobilities under adverse environmental conditions, relocating within short distances), issues which are central in this dissertation. This review article and primary observations in the field regarding the complexity of mobility patterns led me to explore the "mobilities paradigm" in the social sciences, which provides valuable tools for studying mobility and immobility at different paces, on different scales, or with different means as chosen, valued, or coerced and undesirable (Hannam, Sheller, and Urry 2006). This paradigm has offered a central framework for this research and its main concepts are introduced here.

The mobilities paradigm aims to position the *mobile* at the centre of social science, in reaction to sedentarist framings, which tend to consider sedentarism as the norm and movement as the exception (see also Castles 2010). The mobilities paradigm repositions mobilities as a paramount characteristic of human life, affecting multiple social processes and therefore crucial to social science. As Sheller and Urry put it:

> Social science has largely ignored or trivialised the importance of the systematic movements of people for work and family life, for leisure and pleasure, and for politics and protest. The paradigm challenges the ways in which much social science research has been "a-mobile" (2006, 208).

Sheller and Urry explain that most mobility theories have not explored thoroughly how people move, but participate in painting a romantic and idealised vision of mobility without taking seriously movements per se and mobility injustices and the negative effects thereof. Pioneers of the new mobilities paradigm encourage studies of mobile bodies, mobile infrastructures, and systems and stress the need to incorporate the inclusion/exclusion and presence/absence dichotomies in mobility research (Sheller and Urry 2006). Immobility has played a crucial role in the mobilities paradigm since the beginning because it is considered another facet of mobility—mobility and immobility being related and interdependent (Adey 2006). There is no mobility without immobility and as Adey notes, "moments of disruption and breakdown often make previously imperceptible mobilities become their most visible" (2006, 8).

Mobilities thinkers address movements of objects, viruses, technologies, individuals, or groups of people. People may move for work, leisure, pilgrimage, to meet others, or because of violence or disasters. This doctoral research has been particularly inspired by works within this paradigm, which "examine different modes of mobilities and their complex combinations: corporeal travel of people; physical movement of objects; virtual travel often in real-time transcending distance; communicative travel through person-to-person messages; and imaginative travel" (Sheller and Urry 2016, 11). These mobilities of different natures have been largely overlooked by the field of environmental migration even though they contribute to a more complete picture of the relationship between mobilities and the environment (Boas et al. 2018; Parsons 2019).

The mobilities turn has also been accompanied by reflections on the relevance of social science methods to study the *mobile* and several researchers have proposed innovative methods to observe mobilities, travel with, or follow mobile subjects, and experience the sensuousness of mobilities (McGuinness, Fincham, and Murray 2010; Merriman 2014). In this research, mobile methods have been used, which helped to explore and also to redefine research topics. A co-authored article included in this dissertation elaborates on these methods and the ways they have been implemented in this research (Article 3, Section 5.4.4). These methods have enhanced the adoption of the mobilities framework and stimulated reflection on the relevance of the paradigm for research on environmental mobilities.

4. 4. ADOPTING A MOBILITIES LENS: THEORETICAL APPROACHES

4.4.1. Environmental mobilities

The idea to employ the mobilities paradigm as a central framework in my research emerged from the fieldwork. Although my initial research question focused on environmental migration in Tajikistan's Pamir Mountains,[49] early fieldwork experiences of blocked roads or unavailable transportation led me to consider small-scale (im)mobilities as a paramount issue in the region. In addition, conversations with locals confirmed that road conditions often pose a threat to rural-urban mobilities. In the research region, environmental hazards displace residents but may also occasionally detain them in place or make journeys challenging. The field of "environmental migration" orientated towards displacement and migration occurring as a result of hazards has mostly overshadowed daily, small-scale, and circular mobilities (see Wiegel, Boas, and Warner 2019). Hence my inclination towards the mobilities paradigm in order to encompass a variety of mobility patterns.

Until recently, literature on mobilities and literature on environmental migration have developed rather separately. The field of environmental migration was mainly inspired by migration theories (although maybe not sufficiently, see Piguet 2013) and mobilities studies have been interested by environmental matters almost only through the perspective of CO^2 emissions caused by transportation vehicles. Notable exceptions are works on disaster and

[49] As explained in the first chapter, the Pamirs are the mountain range covering the Viloyati Muxtori Kuhistoni Badakhshon (VMKB), the province of Tajikistan on which this study focuses. Residents usually refer to this region as Pamir or "Pomir".

emergency mobilities (Sheller 2013; Cook and Butz 2016; Adey 2016). A 2018 article by Boas and colleagues played a significant role in connecting the mobilities paradigm and environmental migration literature. They specifically coined the term *environmental mobilities* and took hold of the mobilities paradigm in order to study the "composition, speed, routes, and volume" (Boas et al. 2018, 109) of such mobilities:

> The term [environmental mobilities] captures a three-way relationship between mobilities and the environment. First, the movement of people, materials, and information impacts the environment in various ways. Second, there are material and immaterial environmental issues, such as waste, pollution, and CO^2, that have a particularly mobile and cross-border character. Third, environmental issues or changes may shape or cause movement (Boas et al. 2018, 111).

The idea here is to step away from migration studies and to acknowledge the multiple encounters between mobilities and environmental issues by putting the emphasis on the movements themselves. The mobilities paradigm enhances research on the diversity of the mobilities-environment interactions. Boas and colleagues give the example of "changing sea ice or weather conditions [which] can lead to changes in the daily patterns of subsistence hunting of Indigenous communities, changes in the destinations for Arctic cruise tourism, and redirections in shipping routes" (Boas et al. 2018, 112). Some destinations get abandoned and others adopted, and environmental hazards may encourage both mobility and immobility on different scales. Droughts for instance can lead to increased poverty and decrease the potential to engage in international migration (Nawrotzki and Bakhtsiyarava 2017) or boost labour migration (Gray and Mueller 2012). Avalanches, floods, or landslides may block a road for days or weeks, provoking potentially harmful involuntary immobility, but may also (re)create other forms of mobilities (Cook and Butz 2015; Cook and Butz 2016).

Mobility infrastructure such as roads, railways, and vehicles are prone to environmental degradation and may temporarily hamper mobilities. At the same time, environmental conditions may constitute both harmful hazards (floods, storms, or drought) which encourage out-migration and amenities (sunny weather, fertile lands, water availability, or valued landscapes) which encourage immobility. Wiegel, Boas, and Warner (2019) stress the importance of engaging with the dialectical relation between immobility and mobility and with people's differentiated aspirations and capabilities (see De Haas 2014, inspired by Sen 1999) in terms of mobility and according to environmental conditions. Here the mobilities paradigm enables us to address questions such as: "When and why do people decide to move—or not to move—in response to environmental changes, how do they cope with migration pressures, how and where do they move, under what conditions, and who can or must stay behind?" (Wiegel, Boas, and Warner 2019, 2). Following Adey (2006) and Sheller (2018), the former authors insist on the importance of looking at mobility and immobility as relational on the household scale for instance (some members stay, some leave) or over time (individuals engaged in frequent rural-urban mobilities to access non-agrarian income may become immobile when roads are impassible). (Im)mobility also depends on spatial scales with communities potentially "immobile" on the international scale (they don't migrate) but highly mobile within their province. Wiegel, Boas, and Warner's article sheds light on the need to open up the field of environmental mobilities, to examine mobility and immobility on different social, spatial, and

temporal scales, and to incorporate the aspiration-capabilities framework (see De Haas 2014) within research on the environment-mobility nexus in order to highlight the complexity of the (im)mobilities at play.

A collective article, initiated by Boas and Farbotko (Boas et al. 2019)[50], also insisted on the necessity for environmental mobilities studies to move away from securitisation concerns or predictions on the number of so-called climate refugees and to focus rather on the diversity of the movements caused, shaped, or reshaped by the multiple effects of environmental changes. The article argues that the term "climate migrations" is too narrow to capture the complexity of the environment-movement nexus and authors therefore reaffirm the necessity to turn to climate *mobilities* of different natures including involuntary and voluntary immobility (see Zickgraf 2018). To embrace this diversity, studies within the field increasingly engage with the concepts of the mobilities paradigm (Boas et al. 2018; Boas et al. 2019; Parsons 2019; Baldwin, Fröhlich and Rothe 2019).

Adopting a *mobilities* lens has been particularly inspiring in my research since it has helped to connect the material, corporeal, social, political, and economic aspects of (im)mobilities in the Pamirs with ongoing climate trends. The above-mentioned studies on "environmental mobilities" were published during the course of this research and have stimulated my theoretical exploration. This doctoral work contributes to the novel field of *environmental mobilities* by providing an original focus on roads, remoteness, and (in)accessibility in a context of environmental variability. More precisely, this work provides an exploration of (im)mobility aspirations and capacities by focussing on the way people may decide and be able to stay in places they value, to leave and/or to circulate, an approach which has been widely inspired by the mobility justice perspective.

4.4.2. Mobility justice

In this work, mobility justice has been used as an approach which has stimulated research questions and led to the main analytical concepts. This means that mobility justice does not constitute a conceptual tool per se but plays a central role in the construction of the conceptual framework and the choice of the research objects. Mobility justice, as defined by Sheller (2018), concerns people's capacity to move or to remain in place and to dwell. The mobility justice perspective therefore examines the way the (im)mobilities of different social groups, in different geographic locations, are governed, practiced and experienced (Sheller 2018). In this dissertation, two aspects of Sheller's mobility justice have particularly been influential: first, the focus on mobility inequalities and differentiated abilities regarding mobility, and second, the systemic approach put forward by the mobility justice approach, which helped me to consider various (im)mobilities as interconnected and sometimes interdependent. Other aspects of mobility justice have been put aside in this work, for instance mobility justice in its normative dimension, as a human right being claimed and defended (see Sheller 2018, xiii).

The view on (im)mobilities as forming a system on different time and spatial scales put forward by mobility justice, has enabled me to explore and reconnect various (im)mobilities

[50] Co-authored by 31 researchers including myself.

patterns that coexist in the Bartang Valley of Tajikistan. I have examined pedestrian mobilities between villages within a valley, rural-urban transportation from the Bartang Valley to the main towns and cities of the province, and international migration aspirations. Although these mobilities may seem distant from each other, it is important to (re-)connect them and to underline their links to—or interference with—similar socioeconomic issues. As Sheller and Urry explain in their prominent paper on the mobilities paradigm:

> Mobilities need to be examined in their fluid interdependence and not in their separate spheres (such as driving, travelling virtually, writing letters, flying, and walking) (2006, 212).

In the rural valleys of Tajikistan, basic products such as tea, salt, sugar, pasta, rice, and sweets and essential (or perceived as essential) services such as healthcare, education, and administrative and banking services can only be accessed in towns and cities. Mobilities to reach these products and services are paramount for the daily lives of residents. Income needed to acquire such products comes from elsewhere, often from overseas. Remittances from family members working abroad play an essential role in sustaining rural livelihoods. International labour migration and rural-urban mobilities to access products and services form the core of rural livelihoods. Mobilities on both provincial and international scales allow individuals to meet basic needs, fulfil important social goals such as marriage (Cleuziou 2013), building a house, starting a business, and paying for "unexpected" health expenses (Pellet and Jusot 2018). In the Bartang Valley today, the movements of residents on international, national, provincial, and local scales shape livelihood potentials.

Sheller underlines the importance of studying micro-, meso-, and macro-scales together in order to fully understand complex mobility systems and mobility disparities:

> By bringing together studies of migration, transportation, infrastructure, transnationalism, mobile communications, imaginative travel and tourism, […] various new approaches to the study of mobilities are especially able to highlight the relation between local and global "power-geometries" (Sheller 2018b, 20).

Thus, this research examines mobilities on different entangled scales with a particular focus on the multiple ways the environment may interact with these. Frequent landslides, rockslides, or floods impact roads and therefore urban, rural-urban, or national mobilities. Mobilities uncertainties may in turn influence the way people choose where to dwell or eventually to relocate or migrate. Sheller suggests five geographical scales as fundamental to the study of mobility (in)justice and disparities: the bodily scale, the street scale, the extended urban scale, the national scale, and the planetary scale (Sheller 2018a; 2018b):

> We can think about mobility justice occurring at different scales, from micro-level embodied interpersonal relations, to meso-level issues of urban transportation justice and the "right to the city", to macro-level transnational relations of travel and borders, and ultimately global resources flows and energy circulation. Ultimately I argue that we urgently need to connect these scales of the body, street, city, nation, and planet into one overarching theory of mobility justice (Sheller 2018b, 31).

In our rural research context, the "street scale" could be converted into the "valley scale" and the "extended urban scale" into the "provincial scale" (within an administrative region).

The bodily scale is particularly relevant on mountainous and rugged terrains. The micro- and meso-scales are examined more thoroughly in this dissertation but the macro-scale, especially through international migration aspirations, is also evoked. Although this research does not explore "virtual mobilities" and telecommunications aspects (although the first article, "Environmental migrations in Central Asia: A multifaceted approach to the issue", mentioned them), there remains much to say about these aspects of (im)mobility in the Bartang Valley. While many family members live abroad for long periods (frequently leaving their children or spouse behind), mobile telephones and internet connections play a crucial role in the region.

Bringing together different mobility scales enables reflection on their interconnectedness and therefore on the value of studying them concurrently. Can road closures provoke new types of movements? Can inaccessibility enhance out-migration? Does remoteness reinforce place attachment and voluntary immobility? The articles included in this dissertation evoke the interplay of these scales and demonstrate why they need to be studied together. As Demenge explains in his dissertation on remoteness, isolation, and the making of roads in Ladakh, India:

> In fact, by increasing livelihood opportunities, raising incomes, and making villages more attractive, mobility easier, and life more comfortable, roads are more likely to retain people than to encourage out-migration. However, by increasing consumption, aspirations and monetary needs, the road is likely to encourage people to look for work elsewhere and increase out-migration (Demenge 2011, 297–298).

The absence of roads or road closures may provoke temporary involuntary immobility but may also enhance aspirations for migration by making living conditions harder. However, if remoteness and inaccessibility issues increase particularisms and place attachment, they could also enhance immobility aspirations. If migration is considered necessary despite attachment, some residents may leave in order to allow other family members to stay, moving temporarily with the aspiration to return. Thus, connections between (im)mobility scales interact to shape mobility and immobility within a community or a household.

As evoked before, the mobility justice perspective also emphasises people's aspirations and abilities regarding movement. In order to address such issues, I have turned to analytical concepts which facilitate the exploration of people's potentials regarding mobility. The factors shaping such potentials may vary greatly depending on external conditions such as the accessibility of places or on personal factors such as individual skills and competences regarding mobility.

4. 5. BEING ABLE TO MOVE: FROM ACCESSIBILITY TO MOTILITY

My first encounters with the Bartang Valley have made me aware of the low physical accessibility of the Valley because of the poor state of the road, the frequent environmental hazards blocking the road, the absence of public transports and the very low motorisation rate (see Chapter 3). As my research questions and knowledge of the Bartang Valley were developing, I have also started to consider the importance of studying individual abilities for movement. This section introduces some contextual aspects of my fieldwork in order to justify

these theoretical choices[51] and to explain how I have focussed both on in/accessibility and remoteness as characteristics of the Valley, and on the differentiated abilities for movement of the residents, across time and social groups.

4.5.1. Environmental issues and mobility disruptions

Inspired by the mobilities paradigm, I was urged to examine practical and material aspects of mobilities. The impacts of environmental variability on roads, accessibility, and remoteness constitute a core theme within this research. As briefly mentioned earlier, my interest in the relationship between environmental conditions and mobility emerged from trips within Tajikistan and experiences of mobility uncertainties and disruptions during my fieldwork.

The majority of roads in the studied areas are situated at the bottom of valleys, sometimes very steep ones, which are under threat of rockslides, landslides, avalanches, and river overflows. The rivers frequently overflow in summer, especially when temperatures are particularly hot or when precipitation has been abundant the previous winter. Rockslides and landslides occur frequently over the year and increasingly in case of earthquakes, heavy rains, or avalanches. Such hazards sometimes block roads for extended periods and contribute to their degradation over time. In the Pamirs of Tajikistan, these issues are paramount because the region does not operate a railway or domestic flight network. Most roads in the region date back to the Soviet era and many have not been properly maintained. Only in recent years have some portions of roads been rebuilt (see Chapter 3). As noted in the previous section, the impacts of climate variability on roads and small-scale mobilities have mostly been overlooked by environmental migration studies. However, the recent turn to "environmental mobilities" suggests the importance of mobilities on multiple scales.

Addressing road closures provoked by rocks, sand, mud, snow, and water is of crucial importance for the inhabitants of remote villages, where only one road connects residents to the "rest of the world". When roads are blocked, some communities may be unable to access healthcare facilities or basic products and services available only in the city. Following natural disasters in remote valleys, road maintenance provided by the state government is often insufficient to ensure mobility. As climate variability calls into question the accessibility of some areas—negatively impacting rural-urban mobilities, for instance—the sense of remoteness experienced by residents may progressively increase. As such, the value of an *environmental mobilities* perspective when examining transportation infrastructure and other material aspects of mobility becomes clear (see Wiegel, Boas, and Warner 2019; Boas et al. 2019).

As of now, interactions between climate change and roads have been examined mostly by transportation studies or the geography of transportation with no connection to mobilities literature, that is, the study of how individuals practice, perceive, or access mobility. For instance, some (often prospective) engineering or economic studies have explored the ways climate change could damage road infrastructure (Chinowsky and Arndt 2012; Schweikert et

[51] As explained in Chapter 3, observations and data from the field inspired the theoretical framework in an inductive manner.

al. 2014; Makkonen et al. 2014). In rural areas, particularly low-income areas, roads represent a lifeline to economic and agricultural livelihoods, as well as access to healthcare, education, financial means, political participation, and more. As Schweikert and colleagues explain: "Roads may be sparse through geographic locations, making each road critical. Extreme events pose a costly hazard to roads in terms of degradation, necessary maintenance, and potential decrease in lifespan due to climatic impacts" (Schweikert et al. 2014, 306). However pressing, the impact of climate variability on roads and other mobility infrastructure has not received attention from the social sciences. Anthropological perspectives on roads have drawn attention to mobile infrastructure as physical, material, symbolic, and malleable entities (Dalakoglou 2010; Mostowlansky 2017) and may contribute to an understanding of how individuals appropriate mobility according to changing conditions. However, this perspective seems to lack a connection with environmental hazards that impact roads and the resultant potential for negative social outcomes.

4.5.2. A mobile political ecology of roads?

Studies on the "political ecology of roads" have approached issues linked to the impacts of environmental disasters on roads but the "political" frequently prevails over the "ecological" (see Demenge 2011 for a review). Political ecology could be broadly defined as a research perspective addressing environment-societies interactions and notably power relations regarding access to resources (Middleton, Elmhirst, and Chantavanich 2017). Environmental disasters may be fruitfully examined through the prism of political ecology because they constitute socio-natural assemblages and raise issues of power through exposure, security, vulnerability, or recovery aspects. Interestingly, Middleton, Elmhirst, and Chantavanich (2017) developed the notion of "mobile political ecology" to add a mobilities perspective to political ecology:

> A "mobile political ecology" therefore requires an appreciation of the 'nested and teleconnected' nature of vulnerability in the context of geographical mobility, where a number of ecological and economic systems may be at work simultaneously in contributing to the vulnerability, capacity (assets and capitals) and resilience of households and individuals (Middleton, Elmhirst, and Chantavanich 2017, 10).

Thinking with a mobile political ecology perspective helps to regard the practicalities of mobilities as fundamentally political and embedded in a particular environment. Roads, railways, and bicycle paths may be situated on different kinds of soils, and prone to various hazards. Roads in a desert, on a mountainside, or along a coast interact with biophysical elements in various ways and require different types of maintenance, which are regulated by different political regimes. Although the term "mobile political ecology" is oriented towards interactions between mobilities and the environment, Middleton, Elmhirst and Chantavanich address almost exclusively migrations and displacements and do not pay much attention to the material and embodied aspects of everyday, small-scale, or short-term mobilities. Within the frame of this research, I have found it crucial to embrace individual subjectivities and practicalities of (im)mobilities. The concepts of the mobilities paradigm mobilised in this

dissertation help to focus attention on the lived experiences of (in)accessibility, remoteness, and mobilities in contexts of environmental variability.

4.5.3. Experiencing remoteness

In this research, examining how people perceive, practice, or act upon (im)mobilities and mobility issues, uncertainties, and disruptions is a way to explore the concrete and embodied aspects of "remoteness". Roads and accessibility issues affect the remoteness and isolation of a place, its residents, and related social issues. The state of roads and the presence of associated disasters constitute a crucial aspect of remoteness. The concepts of "remoteness" and "isolation", which were central to my initial theoretical explorations, are secondary in this work because I consider that they don't constitute analytical tools and can't provide a deep understanding of embodied (im)mobility experiences. However, this research, focusing on a region famous for its remoteness (according to inhabitants, academic works, and tourism agencies), discusses different dimensions of remoteness as a fluctuating process which is experienced differently over time and by specific social groups (see Demenge 2011). For instance, in the Upper Bartang Valley, the main field site of this research, residents live far from food markets and basic services (up to eight hours by car or four days by foot), and from the provincial administrative centre, Khorog (see Chapter 3). This remoteness can become "isolation" when vehicles are unavailable or when the road is closed, which marginalises the population economically, socially, and politically. Sociopolitical marginalisation, which may create or reinforce multiple vulnerabilities, may fruitfully be analysed through the lens of mobilities. Individuals enjoy differentiated capacities for mobilities according to their financial capital, organisational skills, or current environmental conditions, among other factors (Sheller 2018a). Environmental hazards hamper mobilities but may also make it harder for people to be mobile under adverse circumstances—for instance, driving on a flooded road or walking in an avalanche corridor—or lower people's willingness to be mobile because trips may be perceived as more dangerous. Thus, a central aim in this dissertation is to go beyond the rather common notion of remoteness, very widely used when talking about Tajikistan's Pamirs, by exploring personal, individual and subjective experiences of (im)mobilities. I have therefore turned to concepts that highlight individual abilities and preferences regarding (im)mobilities. In order to examine how differentiated mobility potentials are shaped by individual capacities, positionalities, and mobility inequalities, the concept of motility constitutes an important theoretical tool.

4.5.4. The concept of motility as a way to explore mobility inequalities and disruptions

Motility corresponds to an individual's potential to be mobile. How can people move from point A to point B? The concept, originating from biology, has been developed by urban sociologists and notably by Vincent Kaufmann. Kaufmann, Dubois and Ravalet define motility as "a set of characteristics that enables people to be mobile including physical capacities, social conditions of access to existing technological and transportation systems, and acquired skills (e.g., training, driver's license, and international English for travel)" (2018, 199). This concept is paramount within the mobilities paradigm since it brings forward the practical aspects of human movements and enables us to examine mobility unevenness and differentiated access to

transportation within households or societies (Sheller 2018a). The concept of motility has been mainly used in studies addressing urban mobilities or daily commutes (Parsons and Lawreniuk 2017; Hayfield 2018). However, this concept has become paramount in research on rural and rural-urban mobilities, since it allows an examination of how individuals access and practice mobility on the rugged terrain of the Pamir Mountains—for instance, if they become stranded due to road closures or lack of vehicles—as suggested by preliminary observations in the field.

Motility and its three core dimensions (access, skills, and appropriation; see Kaufmann, Dubois and Ravalet 2018) constitute a good way to identify the root causes of immobility, one of the main aims of this research. Examining motility enables us to understand frequent situations of strandedness in the region, and especially in the Bartang Valley. Motility is the central concept of the fifth article presented in this work (see Section 7.2), entitled "Understanding involuntary immobility in the Bartang Valley of Tajikistan through the prism of motility".

By focusing on individual motility, this research is orientated towards critical mobilities literature and clearly draws inspiration from the *mobility justice* perspective. Sheller mentions motility as a key concept in her theory:

> There is an uneven distribution of these capacities for potential movement in relation to the surrounding physical, social, and political affordances for movement. We can think of this as different degrees of 'motility' […] it concerns the potential for mobility (Sheller 2018b, 25–26).

According to Sheller, studying motility helps to comprehend mobility inequalities and to analyse how they emerge. In this research, Sheller's mobility justice perspective underlines the multiple socioeconomic issues connected to mobilities such as access to work, healthcare facilities, and products and services, and reveals the many threats posed by insufficient mobility potentials in remote regions such as the Pamirs. Although today's global lifestyles seem to be increasingly mobile, a focus on uneven mobilities brings to the fore examples of those who are excluded from mobilities or who can practise mobilities only at very high economic or social costs. In the Bartang Valley particularly, remoteness has often been put forward to explain socioeconomic difficulties and development issues, but the various ways residents actually access, practise, and appropriate mobilities on different scales has been overshadowed. Different mobility scales are examined in this research as a way to reveal their connection and interdependence, and to show the ways uneven motilities and the mobility-immobility relationship are embedded on different spatial scales.

Despite the importance of motility for studying environmental (im)mobilities in the Bartang Valley, addressing solely people's abilities for movement is limiting if we ignore their aspirations and needs regarding mobilities. People mainly feel the consequences of their lack of motility when they need to move or aspire to do so. In this work, I have started from an exploration of the most visible and tangible aspects of mobility conditions and disruptions, and then studied the Bartangis' perceptions, needs, and aspirations regarding mobility. Who needs to move? For what purpose? Who wants to move and who does not? Such questions have led me to an increased interest for immobility, which on some occasions is rather involuntary (when

people need to move but the road is blocked), and on others chosen (when people deliberately choose to stay in their village).

4. 6. ASPIRING TO STAY: IMMOBILITY, PLACE ATTACHMENT AND CIRCULATIONS

4.6.1. Beyond the mobility bias: Immobility aspirations

Looking at mobility disruptions and difficulties accessing mobility has led me to an increasing interest in immobility. How do situations of immobility emerge? How can populations become trapped? A research overview on this topic revealed that it has not received much attention in the social sciences, even within mobilities studies (see Zickgraf 2018). The concept of immobility became central to this research and the articles included in this dissertation offer an exploration of very different facets of the concept, as rather voluntary or involuntary, from physical immobility (situations of strandedness) to immobility as non-migration. In the Pamirs, various immobilities coexist throughout social categories and according to geographic locations, and also on different time scales. Individuals may aspire to remain in their village in the long run but need to be occasionally mobile within the province or valley. Residents of remote valleys may suffer from involuntary immobility (not moving as much as they want) but they may simultaneously aspire to remain (not to migrate). This means that depending on the geographic and or time scales considered, an individual may be both voluntarily and involuntarily immobile. Considering these different types of immobility helped to capture the complexities of the mobility-immobility nexus.

Although immobility, remoteness, and isolation often evoke negative aspects of human lives (see Demenge 2011), this research also explores positive (or perceived as positive) dimensions. Being remote, isolated, and relatively immobile may be valued and appreciated. As Adey notes:

> There are many examples of when immobility and certain qualities of immobility are (almost) innately positive. The values of being still, slow, measured, at rest, relaxed, in slumber, even asleep, are possibly just as common (2017, 12).

This dissertation delves into immobility aspirations and capacities and into immobility as both voluntary and involuntary, and therefore draws inspiration from the aspirations-capabilities model. The capabilities approach, extensively developed by Sen (1999), has inspired Sheller's mobility justice and has become central within theories of migration and mobility. Migration theorists Carling (2002) and De Haas (2014) have largely worked on the aspirations-capabilities model. Carling's work has shed light on the situation of individuals "wishing to migrate but not being able to do so" (2002, 5). Carling suggests an aspiration/ability model to address the constraints and restrictions faced by aspiring migrants and to explore how aspirations to migrate (or not) are formed. Such model has later been used and developed in other studies (see Carling and Schewel [2018] and De Haas, Castles, and Miller [2020] for reviews).

The notions of aspiration or desire to migrate are hard to manipulate since they depend on numerous social, cultural and psychological features of individual lives. As De Haas, Castles and Miller explain: "Aspirations are a function of people's general life aspirations and perceived geographical opportunity structures. If people have broader life aspirations that

cannot be fulfilled at home, this often generates aspirations to migrate" (2020, 62). Aspirations and desires to migrate are embedded within social norms and expectations, and "socially-sanctioned behaviours" (Carling and Collins 2018, 916). Migration aspirations depend both on structural constraints (for instance in contexts where migration is perceived negatively) or facilitators (migration history and migratory networks), and on individual preferences, depending on broader life aspirations and personal desires. As Carling and Schewel explain, aspirations also depend on abilities (2018), which means that individuals shape their mobility/migration aspirations depending on their perceived abilities to move. In order to aspire they need the "capacity to aspire" (Carling and Schewel 2018, 953), which is also shaped by structural and individual constraints and possibilities. Despite the complexity of the notion of "aspiration", it is important to address it, as a way to emphasise individual perceptions and preferences regarding mobility. The aspiration-capabilities model also helps to engage with notions of voluntary and involuntary immobility cautiously, given their fuzziness. As De Haas, Castles and Miller put it:

> Conceptualizing migration as a function of capabilities and aspirations to move within a given set of opportunity structures may also help to bridge certain rather dichotomous distinction between migration categories. An example is the distinction between 'forced' and 'voluntary' migration. Rather than applying such dichotomous classifications, it seems more appropriate to conceive of a continuum running from low to high constraints under which migration occurs, in which all migrants have agency and deal with structural constraints, although to highly varying degrees. (2020, 63)

Mobility and immobility can be more or less voluntary or involuntary, and situations of voluntary and involuntary mobilities, or mobility and immobility often coexist within a community, a household and even within an individual. Some forms of mobility may constitute strategies to remain in valued locations, and therefore be strategies of immobility. The moves of some individuals allow others to remain, or temporary moves allow them to stay connected to places over the long term. First encounters with the Bartang Valley have enabled to notice that many residents express a strong will to remain in their valley, despite vulnerabilities of different natures. This is why the aspiration to stay in Bartang despite risks and uncertainties has become a central research focus withing this work. Drawing inspiration from the aspiration-capabilities framework, the dissertation explores how people-place relationships may foster the aspiration not to migrate. In order to understand why some individuals decide to remain in place or to practice some forms of mobilities as a way to preserve connection with particular places, the concept of place attachment plays a central role in this work.

4.6.2. The concept of place attachment

They way individuals aspire to dwell in a place or to leave it depends on the relationship they have with this place. Place is one of the main concepts of human geography, which helps to examine how individuals forge ties with one, some, or multiple places in their lifetime. Places impact human lives and are in turn impacted by them since places are shaped by a multitude of human practices, activities and networks (Massey 1991). The concept of place attachment and its many dimensions such as place identity, place meaning or environmental and social bondings are increasingly used as a way to understand (im)mobility aspirations (Stedman 2003;

Di Masso et al. 2019). People-place relationships play an important role in understanding why in similar contexts, some people may choose to migrate and others not. They also enable to understand why some communities or individuals decide not to move when severe risks threaten their dwelling place (Adams 2016; Farbotko and McMichael 2019; McMichael and Katonivualiku 2020). In this research, exploratory fieldwork in the Bartang Valley has suggested the importance of the residents' bonds with their Valley and its influence on the way they practice (im)mobility. The incorporation of this concept has helped to consider immobility not only as an involuntary situation in which people are trapped, but also as agency, and even as a way to build resilience in the face of economic difficulties and environmental hazards. Such themes are at the core of article 5 (Chapter 6).

Exploring the complexity of people-place relationships, of aspirations regarding mobility at the individual or community level, and of the interconnectedness of mobility and immobility, has enabled me to go beyond simplistic dichotomies and to study how multiple mobility patterns may coexist through translocality.

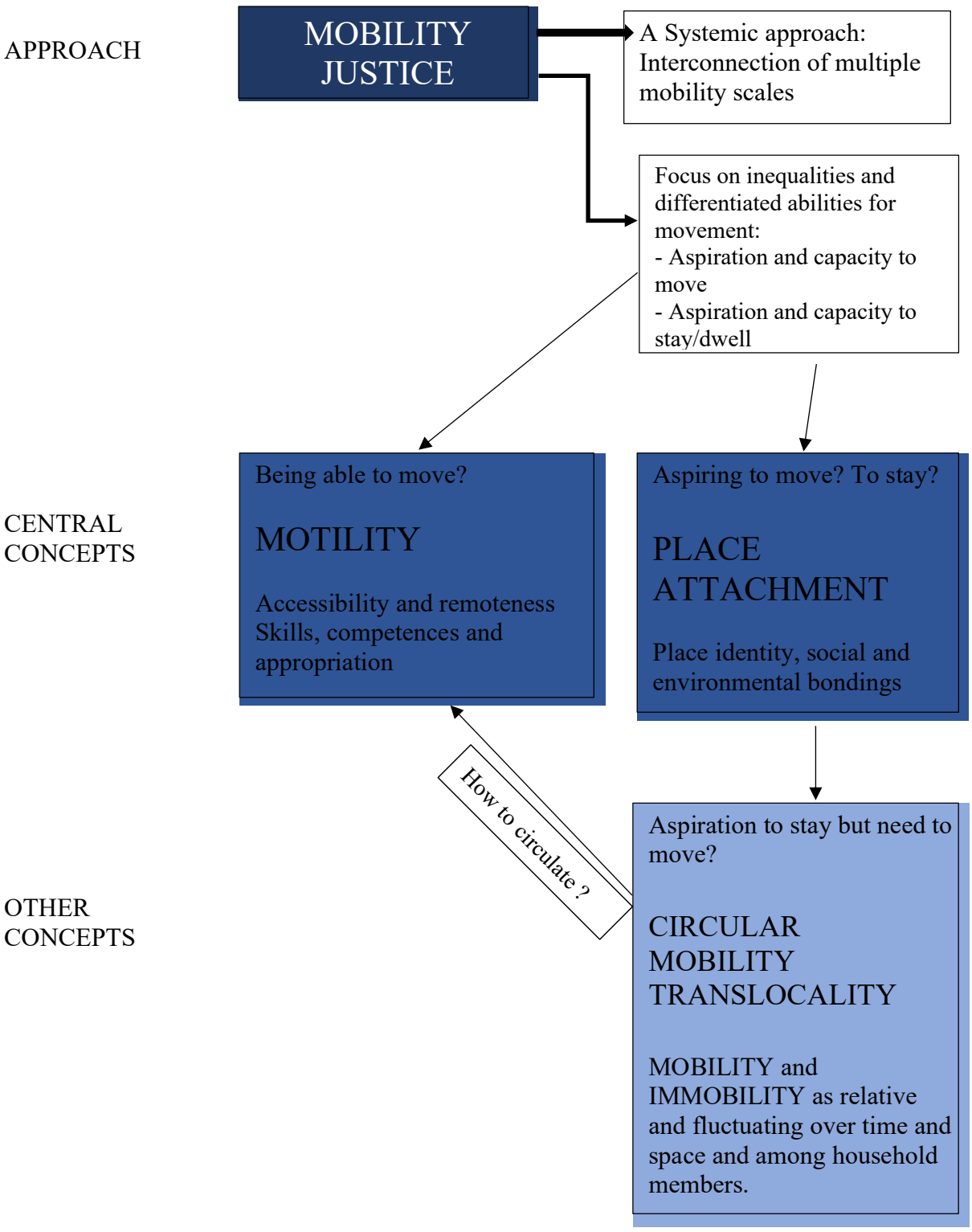
4.6.3. Exploring the mobility-immobility relation: circulations and translocality

By engaging with the mobilities paradigm and the mobility justice perspective, this work seeks to emphasise the multiplicity of mobility and immobility patterns, whether rather chosen or involuntary, and occurring on an array of time and spatial scales. Thus, this research insists on the circularity of mobility patterns in the Bartang Valley, from villages to towns and cities, and from the Valley to Moscow, for instance. The conceptual framework has therefore been influenced by the notion of translocality, which can be broadly defined as the "dynamic interconnectedness of localities linked by people, their actions, and activities, a framing that seeks to place human agency at its centre, while also accepting the role of non-human and structural factors in driving the systems within which mobility occurs" (Lawreniuk and Parsons 2020, 3). Mobilities between the Bartang Valley and Qumsangir, Murghab, Khorog, Dushanbe and Moscow are often temporal and circular, and ties are strong between these localities, mainly because migrants (leaving for different periods of time, and within the country or abroad) often leave without their spouse and/or children.

Some residents migrate for several years in order to save money, thereby being able to secure a livelihood upon return to their "home". In a way, they "leave in order to stay" (De Haas 2014, 26; see also Cortes 2000). This paradox encapsulates the ways mobility and immobility intersect on different spatial and temporal scales and shape translocal connections. Many residents of the Pamirs migrate in order to be able to sustain a livelihood 'at home' in the future, and those who don't (or almost never) move usually depend on products from the cities or money from abroad. Mobilities are constitutive of livelihoods, even for those who stay. Thus, this work considers and explores the relationship between mobility and immobility as complementary and relational (Adey 2006; De Haas 2014). Immobility aspirations are examined in the context of potential out-migration, and rural-urban mobilities are studied in their relation to situations of involuntary immobility caused by road closures, lack of means of transportation, or family responsibilities. In this sense, the notions of translocality and circular mobility have helped to explore the fluidity of mobility patterns and to discuss and go beyond the mobility/immobility and voluntary/involuntary dichotomies through the incorporation of various time and spatial scales

within the study. The five research articles included in this dissertation help to conceptualise these complexities of mobility and immobility, and the two empirical ones (chapters 6 and 7) engage genuinely with the concepts introduced here.

4. 7. SUMMARY DIAGRAM OF THE CONCEPTUAL FRAMEWORK



4. 8. CONCLUSION

This chapter presented the theoretical framework which helped to design and address my research questions. My reflection is structured around literature that links environmental conditions and mobility, from climate-induced migration to environmental mobilities. Preliminary observations during fieldwork led me to focus on small-scale mobilities, mobility disruptions, and the practical aspects of mobilities from the perspective of the mobilities paradigm. As such, I have positioned my work within the growing literature on "environmental mobilities" which brings complexity to the environment-mobility nexus by examining a variety of mobility scales and by conceptualising immobility in the context of environmental variability. Reflecting on scales and materialities has progressively driven me to position road conditions and physical accessibility as central to my work, and I explore these through the perspective of Sheller's mobility justice (2018) and through the prism of the concept of motility. This enables an understanding of how residents may find themselves immobile—and more generally, how mobility and immobility complement each other—in the Bartang Valley, but also of how mobility and immobility are shaped by people-place relationships. Thus, the concept of place attachment, which enables to understand intimate connections between residents and their dwelling place is another central theoretical tool in this work. The dissertation examines how individuals may aspire and be able to mobile or not in contexts of environmental risks. The next chapter presents the methodology which supports this research in accordance with the theoretical framework by introducing the research chronology, participants and assistants, reflections on the ethics of the research, and the data analysis process.

5. METHODOLOGY AND METHODS

> Probably it is for this reason that we practice ethnography—to make a difference in the way we comprehend the world. In this instance, the difference could be named quite simply: the ordinary (Fassin 2013, 631).

This doctoral work constitutes an ethnography involving qualitative methods. This chapter introduces the methodology which has inspired this research and the methods which are implemented. Here I refer to methodology as the epistemological stance adopted and to methods as the techniques used to collect data (England 2006). I delve more in depth into methodological reflections in the present chapter since the two empirical articles included in this dissertation (Article 4: "Staying despite disaster risks: Place attachment, voluntary immobility and adaptation in Tajikistan's Pamir Mountains", and Article 5: "Understanding involuntary immobility in the Bartang Valley of Tajikistan through the prism of motility") feature methods sections which give practical details on the methods used to explore the research questions.

The present chapter is structured in five main sections. The first section explains the timeline of the research and the chronological development of the research. The second section focuses on relationships with research participants and assistants. The third section discusses the ethics of the research and brings some reflexivity to my work. The fourth section presents the research methods: observation and participation, interviews, mobile methods, and audiovisual methods. Subsections on mobile and audiovisual methods include co-authored methodological articles: one explores the use and challenges of mobile methods in the social sciences and the other focuses on the use of audiovisual materials in this dissertation and in geography in general. Finally, this chapter terminates with a section on data analysis and the writing process.

5. 1. GOING WITH THE FLOW: THE RESEARCH CHRONOLOGY

5.1.1. Grounded theory and abduction: Starting from the field

> The researcher must engage in continued critical reflection on the research process and their role within it, refining the specific methods employed to the context of the study (Rodaway 2006, 268).

Over the years dedicated to this work, my ways of knowing and ways of doing research have continuously changed. Research questions, theoretical frameworks, and methods have been adapted and modified progressively as I entered and returned from the "field". In this research, the role of fieldwork was prominent, and the research questions and conceptual framework have been greatly influenced and shaped by the six fieldwork trips. It was crucial for me to address questions emerging from the field in an inductive way. As is often the case in ethnographic work, I avoided preliminary hypotheses in the attempt to develop insight through observations and experiences. This position was inspired by grounded theory in social science, whose methodology "aims to generate a theory that is built on theoretical concepts or categories that emerge from the data" (de Bie and de Poot 2016, 582) The idea is to alternate between the data/fieldwork and the theoretical concepts: "Preliminary findings from initial data gathering uncover tentative concepts, which in turn direct the collection of new independent data" (de Bie and de Poot 2016, 582–583). This means that from writing to analysing and theorising, the

stages of research are undertaken simultaneously. This way of doing research means we step away from a positivist posture and attempt to keep an open mind while building theories from the data (see Glaser and Strauss 1967). Given the way theories and data mutually reinforce each other, the grounded theory is not only inductive (see Bakker 2019). In fact, the circularity of the research process makes it more abductive: after preliminary conceptualisations have been formed from the data, we make new theoretical discoveries in a theory-informed and methodological way. Abduction aims to find explanatory causes: it "links the idea of hypothesis to ordinary experience in order to explain the ordinary circumstances… [and] lies in the iterative dialogue between data and a combination of existing theories or propositions" (Rahmani and Leifels 2018, 569). Inspired by this methodological approach, my doctoral work has made reciprocal connections between theory and fieldwork. The choice of methods progressively developed over the course of the research, with some methods emanating from everyday situations in the "field".

In order to focus on real life issues, problems, or events, it was important to start from the field and to keep the plan for each fieldwork trip flexible. This enabled room for spontaneity and the needs of research participants and was motivated by "a desire to avoid imposing preconceived ideas (concepts, theories) and to get 'back to the things themselves"' (Rodaway 2006, 264). Although this may sound slightly idealistic, the idea was to embrace the way human encounters would influence my journeys throughout the field and therefore the research questions addressed. The stories and opinions of research participants would influence the main topics explored. This position drove me to acknowledge and learn to handle the inherent spontaneity and "messiness" of fieldwork (see Article 3, Section 5.4.4) which is a particularity of most ethnographic studies:

> We cannot predict the mundane, complex, rich and fraught realities and relationships that we will go on to develop "in the field", nor how these realities might reshape our understanding of our projects once the period of data collection is over. This is to be expected of course. However conscientious we are before we begin work, we are unlikely to know how it will really feel to be there unless, perhaps, it is somewhere we know intimately well already (Faria and Good 2012, 63).

This spontaneity and plurality of methods enabled me to stay open to unexpected mundane situations and to embrace the chaotic nature of fieldwork. However, starting from the field raises the issue of the choice of the field under study.

5.1.2. Finding the field

My first encounters in the Pamirs occurred in 2013 and 2014 during "touristic" trips in the Viloyati Muxtori Kuhistoni Badakhshon (the administrative province on which the research focuses, hereafter VMKB). During the second trip, the idea emerged to conduct research on the Tajikistani-Afghan border and more specifically on the border market in the town of Ishkashim, in the southernmost area of Tajikistan. In 2015 I came back to the VMKB, spending most of my time in Ishkashim during a two-month field trip as part of my Masters degree in geography (University Paris 7 - Diderot). This research culminated in a thesis titled "Le développement d'une région frontalière post-soviétique: Nouvelles dynamiques de coopération transfrontalière

dans la région autonome du Gorno-Badakhshan au Tadjikistan"(2015).[52] Although my research focus was different at that time, this fieldwork made me aware of multiple environmental issues the region was facing and their diverse consequences. In February 2015, because of strong avalanches, I was trapped for a week in the village of Nishusp, between Khorog and Ishkashim, as both sides of the road remained closed. This was an occasion to observe the difficulties posed by environment-related mobility disruptions first-hand. My PhD project initially emerged from experiences such as this one.

The choice to conduct doctoral research in the Pamirs emerged from personal curiosity, a will to carry on with previous research, knowledge accumulated during work on my Masters thesis (see next subsection), and a desire to address pressing social issues in an understudied part of the world. The choice of the Bartang Valley as the main field site resulted from different experiences, reflections, and encounters. My preliminary doctoral fieldwork in 2016 was intended as a way to familiarise myself with the region and determine which villages would become the main study sites. I therefore travelled to three valleys of Tajikistan: two in the Pamirs, the Wakhan and the Bartang, and one in the northern part of the Region of Republican Subordination, the Rasht Valley. During these trips, I became increasingly aware of issues of inaccessibility and environmental hazards. In the Bartang Valley, I met many residents eager to share their knowledge of environmental issues and noticed that the summer months brought floods which make portions of the only road to the valley impassable. During my brief stay in the summer, I also noted that road conditions were a common topic of conversation. This was consistent with the reputation of the Bartang Road as particularly challenging and probably in the worst state of all roads of the province. During this first short stay, I heard residents express concern about weather variability and potential consequences for agriculture. These encounters, combined with a growing interest in the environment-accessibility nexus, led me to choose the Bartang Valley, and especially its upper part, as my main study site. Although I first envisioned comparing two valleys in terms of environmental variability and related (im)mobilities, I progressively focused exclusively on the Bartang Valley.

More precisely, this research focuses on the eastern and upper part of the valley where the Basid and Savnob *jamoatho* [municipalities or village councils] are located, which are more physically remote from Vamar, the district centre, and Khorog, the provincial centre. Influenced by chance encounters and given the role played by research assistants (see Section 5.2.2), the villages of Basid and Roshorv became the main field sites. Nonetheless, interviews were also conducted in the villages of Chadud, Bardara, Savnob, and Ghudara (see Fig. 11). Basid was also a coherent choice given its narrow topography, the numerous hazards resulting thereof, and the lack of available lands to contain the demographic pressure. Roshorv was also a worthwhile case since the village is (one of) the largest and most populated in the Bartang Valley and, unlike Basid, is very wide and mostly safe from hazards, but faces severe issues of access to water and energy.

[52] "The development of a post-Soviet border area: New transborder cooperation dynamics in the Autonomous Region of Gorno-Badakhshan in Tajikistan" (translation by the author).

5.1.3. Fieldwork trips

My doctoral research started in March 2016 and the first field trip took place that summer. The following table (1) summarises the organisation of the fieldwork.

Date	Summer 2016	Summer 2017	Winter 2018	Summer 2018	Summer 2019	Spring-Summer 2020
Duration	5 weeks	5 weeks	5 weeks	5 weeks	5 weeks	4 months
Main destina-tions	Wakhan, Bartang and Rasht Valley	Bartang Valley: Basid, Roshorv, and Savnob	Bartang Valley: Basid and Roshorv.	Bartang Valley: Basid, Roshorv, Savnob, and Ghudara	Bartang Valley: Basid, Roshorv, Savnob.	Bartang: 2 months Khorog: 2 months
Purpose	Preliminary observations and choice of the main study site(s)	Semi-structured interviews	Observations, shared trips and audio-visual methods	Shared trips, interviews and audio-visual methods	Refining and clarifying results through all methods	PhD visiting fellowship, writing, and ethnographic participant observation

Table 1: The organisation of the fieldwork

Jamoat	Basid			Savnob				
Villages	Basid	Chadud	Bardara	Roshorv	Savnob	Rukhch	Bopasor	Ghudara
Altitude	2400	2400	2800	3100	2700	2700	3050	3100
Approx. population	800		530	1000	330	231	310	317

Table 2: The villages under study, their altitude and population.

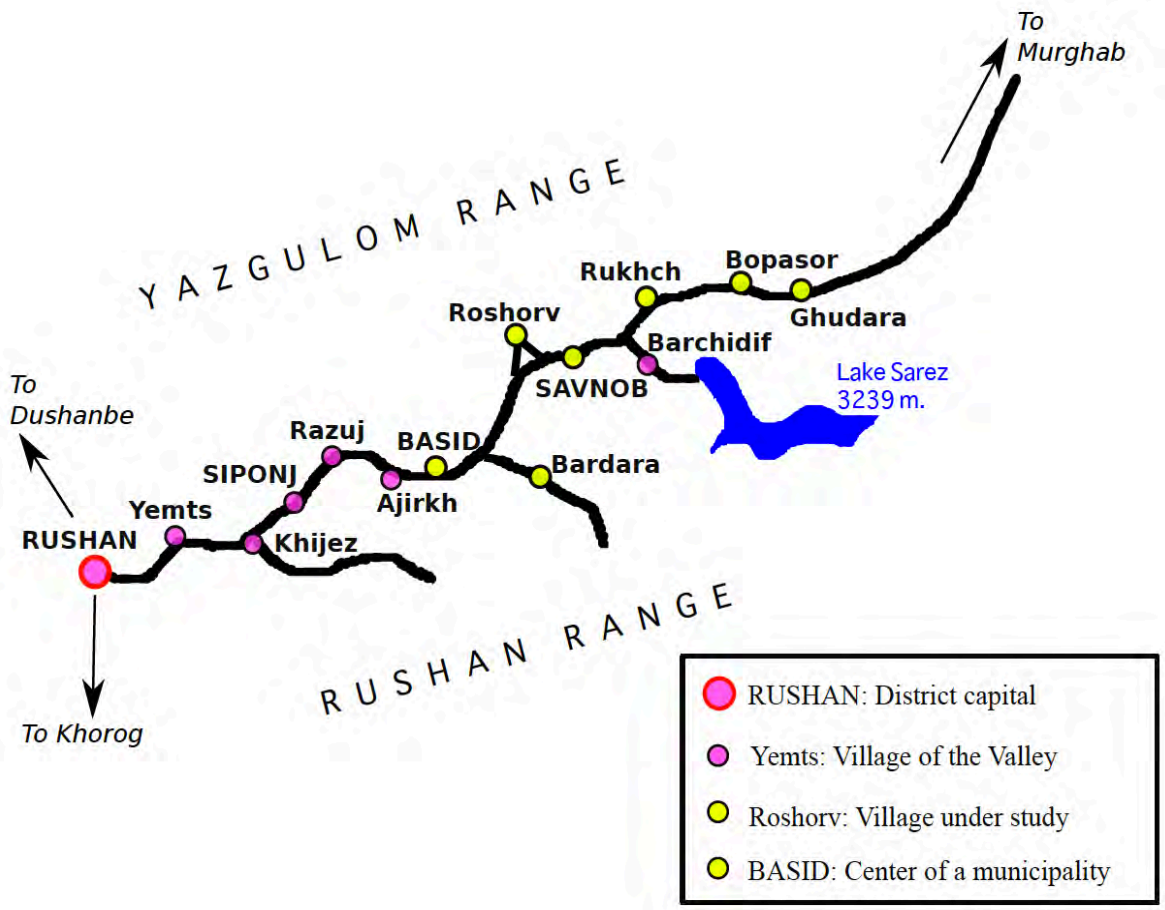


Figure 11: Location map of the villages of the Bartang Valley. © S. Blondin

The choice to undertake several field trips was conditioned by my activity as a teaching assistant at the Institute of Geography of the University of Neuchâtel during most of my doctoral years (except between March and August 2020). My work schedule allowed me to travel to Tajikistan only during academic holidays in summer and winter. This organisation enabled me to follow the "abductive" perspective described in the last section (movements back and forth between the field and theory) and to experience life in Bartangi villages at different times of the year. This allowed me to witness changing road conditions, food availability, and general living conditions according to the pace of the seasons. Most fieldwork trips lasted five weeks. The last trip was longer, during which time I served as a visiting PhD student with a Swiss National Science Foundation Doc Mobility fellowship at the University of Central Asia in Khorog (located in the province under study). All of these trips were different in terms of places visited, host families, and research methods deployed as my personal network and knowledge of the research area was developing and the research questions evolving. The organisation of the dissertation by articles enabled me to focus on different topics during each stay and to focus on reading and writing between field trips. The first trip helped to define the research questions, the second and third allowed me to examine issues of small-scale mobilities and motility (Article 5, Section 7.2), and the fourth and fifth to apprehend the theme of place attachment and voluntary immobility (Article 4, Section 6.2). During my last trip to the field, the COVID-19

pandemic suddenly and severely interrupted global life and mobility. I was at the University of Central Asia in Khorog when it closed its doors due to the situation, and so I decided to go to the Bartang Valley. I unexpectedly found myself writing a large part of this thesis from the field while experiencing one of the main research topics: involuntary immobility (see Article 5, Section 7.2). According to global circumstances and the evolution of my work, the field trips have built on, influenced, and accompanied different stages of the research.

5.1.4. A case study

This research is an ethnographic case study examining the environment-mobilities nexus in the Bartang Valley of Tajikistan. Without providing an exhaustive monograph of contemporary lives in the Bartang Valley, this dissertation touches upon a variety of topics including environmental, socioeconomic, demographic, historical, and religious characteristics of the Valley. Since the main research questions have emerged from the field, this dissertation has a strong empirical dimension. This research sheds light on a specific context through an in-depth analysis which emphasises its particularities and complexity (see Stake 1995). As such, and as Stake notes, in most case studies the generalisation of results is limited:

> The real business of case study is particularization, not generalization. We take a particular case and come to know it well, not primarily as to how it is different from others but what it is, what it does. There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself (1995, 8).

Researching through a case study means that the initial aim is not to develop general laws or models but rather to delve into one case using a constructivist and/or interpretivist paradigm (see Harrison et al. 2017). In this research, the case study provides general up-to-date knowledge on Tajikistan's Pamir Mountains and specific data on (im)mobilities embedded within the context of the Bartang Valley. Insights on the values and perceptions of (im)mobilities and the meanings attributed to place are highly context-specific. However, it is the in-depth and long-term ethnography conducted in a specific Valley that has led to the theoretical and epistemological reflections which are widely relevant for the study of environmental mobilities in general. The conceptual approaches offered by this research could be applied to a variety of studies on similar topics, whatever the context. By forwarding socioeconomic and cultural elements specific to the Bartang Valley, this work aims to bring conceptual complexity to the study of environmental mobilities and to inspire other works on similar topics. The case-study presents multiple ethnographic details on the Bartang Valley which could be of use to any person interested in the region and offers novel theoretical perspectives which could be helpful for future works on environmental mobilities. Let us now introduce the research participants and assistants who played central roles throughout the research experience.

5. 2. RESEARCH PARTICIPANTS AND ASSISTANTS

This in-depth ethnography of the Bartang Valley could not have been done without the support of the residents. This section briefly presents the main interlocutors, friends, and contacts who shaped and influenced the fieldwork experience. I do so here in a rather

descriptive way, while Section 5.3 will engage with the many ethical issues brought about by fieldwork relationships. Elaborating on the role and status of research participants is a way to recognise the important logistical and emotional parts these actors played during the research, and also lends insight into the ways research questions, methods, and concepts evolved as human bonds developed.

5.2.1. Contacts, friends, and host families: Establishing a network

> I am still trying to understand how Mitch and the people whose lives he documented developed relationships on several New York City streets where race and class conflicts derail most efforts to transcend such barriers. Does this mean that people sometimes find ways—the will, actually—to work through their phobias and prejudices on these streets? Is it a matter of being willing to listen to one another with respect? Does it hinge on the sheer willpower of a subject, in this case myself, who was determined not to be reduced to a theoretical formulation or mere "data"? Given the vast inequalities, racial misunderstandings, and violence found on the street at every turn, I believe there was some measure of good luck involved here—the kind of luck that scholars and "subjects" of different races, classes, and genders will need when they encounter one another "in the field" (afterword by Hakim—the main research participant—in Duneier 1999, 330).

Establishing contacts and taking care of human relationships in the field of research undoubtedly requires respect and openness to alterity, mutual motivation, and luck. My first trip to the Bartang Valley in the summer of 2016 started unexpectedly by sharing a car with two foreign travellers who were in contact with Nasrullo, a man in Bartang. Nasrullo is a tourist guide and a French speaker (very uncommon characteristic in the Bartang Valley). Ever since our first meeting I have stayed in contact with him and he has provided me with information and logistical support. He was the one who put me in contact with Munosibsho, my research assistant and translator during the summer of 2017. The Bartangis being a rather small community—approximately 4,500 people live in the Basid and Savnob municipalities—residents have relatives or friends in almost every village, and they have provided me with the contacts of friends and relatives throughout my fieldwork journey. In my research, the "snowball effect" has played an important role in meeting research assistant-translators and host families, and making new contacts and friends. In the Bartang Valley, hospitality is such that it was relatively easy for me to meet interlocutors, interviewees, and friends who have helped with my research, travel, and accommodations (see Section 5.3.2).

In the Bartang Valley, tourism infrastructure is very limited and the guesthouses available are usually spare houses that owners rent out. Like all houses in Bartang, these have no access to running water or cooking facilities. This means that the guest is dependent on their hosts for meals and shares their *banya* [bathroom] if they have one (without access to running water, this is usually a simple room, sometimes equipped with a *pechka* [woodstove], where guests have privacy to wash themselves). In some villages I stayed in these guesthouses, and in others I was hosted by friends (or friends of friends), sometimes sharing the same room with the whole

family.[53] These logistical and cultural aspects resulted in close bonds with the people hosting me as I observed—and sometimes participated in—their daily chores and activities. In this sense, my fieldwork resembled classical anthropological fieldwork where the researcher lived among members of the community and in some cases research participants. I believe that sharing life conditions and being included in a family as a *mehmon* [guest] greatly helped me to integrate into the community and facilitated communication. Residents of villages usually knew where and with whom I was staying or sometimes who I was travelling with and this brought us close rather quickly as we had acquaintances in common. Families who hosted and fed me—and others whom I visited during each of my stays in their village—played a paramount role in my research, and the bonds we developed reveal that such field experiences last for a lifetime.

5.2.2. Research assistants

Two main research assistants helped me during my field trips. They have become close friends throughout the years. Their main role was to translate the interviews we conducted together but calling them mere "translators" would be inaccurate as they also provided logistical support, introduced me to numerous relevant actors, and fuelled my reflections with their fruitful insights. The role of research assistants is often hidden or underestimated in social science research despite their crucial importance:

> We need to stop ignoring the positionality and subjectivity of research assistants/ interpreters in social science qualitative fieldwork, as these factors influence numerous relationships, negotiations and differential access to interviewees and resources (Turner 2010, 216).

At the beginning of my research, I was reluctant to hire a research assistant. I thought that it would limit my autonomy in the field, and I was unsure about how we would work together. But linguistic constraints led me to require assistance. The people of the Bartang Valley speak Bartangi and Roshorvi, dialects (or versions) of the Pamiri language spoken throughout Tajikistan's Badakhshon. Although my intermediate level of Tajik, the country's official language, allowed me to conduct informal conversations with locals and to understand some Bartangi (which has common words with Tajik), I was certainly not fluent enough to conduct interviews. This is why my friend Nasrullo put me in contact with Munosibsho during the summer of 2017. Munosibsho is a native of the village of Roshorv and spent two years in London studying Islamic Studies at the Institute of Ismaili Studies. In 2018, when Munosibsho was unfortunately no longer available to assist me, I worked with Qudrat, whom I met in 2017. Qudrat is a native of the village of Basid and was until 2019 a student of the English language at Khorog State University. With Munosibsho, and afterwards with Qudrat, I travelled to different villages of the Central and Upper Bartang Valley, sometimes with shared cars and sometimes on foot or by bicycle. We stayed from two to ten days in each village to conduct interviews. Both assistants were paid for their work. Munosibsho, who had studied

[53] The Pamiri house is made of one central living space, usually about 30 square metres. This multifunctional room is the living room, bedroom—people sleep on *kurpacha* [mattresses] that they lay down and remove every day—and sometimes kitchen, especially in winter when the woodstove is used both for cooking and heating the house (see Bliss 2006, 167).

anthropology in London, expressed interest in the research topics and methods, and Qudrat was eager to practice his English and to learn more about life in his home valley (he had never been to most villages higher than Basid). As I travelled with them, I was often hosted by their extended families, and was seen by the local communities as their friend. Just as the anthropologist Aliaa Remtilla in Ishkashim (Tajikistan) was first considered "Shirinbek's Canadian daughter" and secondarily an anthropologist (Shirinbek being her "host father"; Remtilla 2012, 30), I was often considered Munosibsho's or Qudrat's friend before being considered a PhD student doing qualitative research. Entering a house with the aim of interviewing a member of the household turned out to be much easier when accompanied by a local whom they knew or whose relatives they knew. As such, these research assistants were much more than translators only since they played crucial roles as cultural brokers and as introducers (see Turner 2010). Given Munosibsho's and Qudrat's central roles, I consider that I have "carr[ied] out interviews with, rather than through, interpreters" (Edwards 1998, 197). In some cases, they also helped me to interpret the data and made "assumptions about meaning equivalence that make [each of them] an analyst and cultural broker as much as a translator" (Temple and Young 2004, 171).

In Munosibsho's and Qudrat's respective villages (Basid and Roshorv), our interlocutors and interviewees knew them. In other villages, they were frequently asked, "Whose son are you?" and the conversation started with a brief account of the acquaintances they had in common. The way these everyday encounters or more formal interview settings unfolded greatly helped me to become familiar with Bartangi daily life and sense of community. Travelling, working, and sharing everyday activities with Munosibsho and Qudrat definitely reduced the distance between the "researched community" and myself. As their friend, I was quickly accepted by the community despite being a stranger. The status and role of these research assistants somehow blurred the line between "researcher" and "researched", which helped to deconstruct the dichotomy (see Råheim et al. 2016 for a discussion on the researcher-researched relationship).

5.2.3. Interviewees and key informants

It is impossible to give exact figures on the number of research participants in this work as all my interlocutors either directly or indirectly contributed to defining and redefining research topics and finding answers to my questions. Concerning interviewees, 70 residents were interviewed, some of them twice (see Section 5.4.2 for details). When I began to conduct interviews in a village, most of the time I was directed to people considered "knowledgeable" such as teachers or the *khalifa* [local religious leader]. Although it was important to diversify my sample and not only to talk to "knowledgeable" individuals or to people with a certain environmental or mobile background, some of them played a key role in my research endeavours, even stimulating it with their curiosity. I will now introduce some of the people who greatly supported my research, both scientifically and emotionally.

Zafar is a former primary school geography teacher. A man in his late forties, he studied geography in Dushanbe during the Soviet era. He returned to his native village, Roshorv, during the Civil War in the 1990s because of unrest in the capital. Zafar told me how much he would have loved to pursue an academic career as a researcher in geography. Every time I happened

to be in his village, he was eager to spend time with me, to show me his small collection of books on the Pamirs and to give me lessons on the local "micro-climate" or on greenhouse agriculture. We stayed in contact by telephone when I was in other villages or back in Europe. Zafar showed great interest in my research and always expressed happiness to see foreigners researching his region.

Pari is an English teacher. A woman in her early thirties, she studied at Khorog State University and has been teaching English for almost ten years. She is greatly involved with her local community, for instance, she reports on women's living conditions for the district's government. Pari and her husband own a guesthouse where I stayed for a significant part of my fieldwork. I lived in the guesthouse but was dependent on Pari's house to access food. Her family and I also shared access to the same *banya* [bathroom] and toilets in the garden. This proximity led to us spending quite a bit of time together discussing uncountable aspects of Bartangi life and especially in 2020 when I stayed in her guesthouse for two months during the beginning of the COVID-19 pandemic. She was always curious about my research and committed to answering my questions. Her views on different cultural or socioeconomic characteristics of local livelihoods deepened my analysis and helped to answer my research questions.

Barzu was a physics teacher for many years before migrating to Russia. A man in his early fifties, he is dedicated to the Bartangi community and has lived in the Bartang Valley, Dushanbe, and Russia. He has also travelled to Afghanistan and Pakistan. His wife and daughters live in Dushanbe and Russia and he therefore has fruitful insights into (im)mobilities from and to the Bartang Valley. He also showed curiosity in my research questions and their possible impacts on the local community or for other scientists. Throughout my fieldwork experience, he encouraged me to re-think and re-test hypotheses and results.

The innumerable conversations (and sometimes small debates) on science, religion, or development I had with Qudrat, Munosibsho, Zafar, Pari, Barzu and many others made this work collective. Although giving back to participants within research is a central but arduous issue (see Swartz 2011), I consider casual and informal conversations invaluable to "interpersonal knowing" (Rodaway 2006), which helps to reduce the research hierarchy and aid the exchange of information. My local interlocutors usually asked as many questions as I did about my living conditions or opinions on various subjects. These encounters, observations, and mundane conversations with "research participants", host families, assistants, and friends played a central heuristic role and are at the core of the research exploration. My interlocutors were never considered passive but "knowledgeable agents accepted as 'experts' of their own experience" (England 2006, 288) whom I not only interviewed but shared countless informal conversations with.

Although my research could not be called "participative" in the common acceptance of the term—because the research design and questions were not fully co-produced (see Askins 2018), for instance—the relationships with the people mentioned in this section had a significant impact on the outcomes of this research. Interactivity and intersubjectivity formed the basis of knowledge production (Beaulieu 2004; Fabian 2014) and can be viewed as alternatives to a positivist stance (see also Mostowlansky and Rota 2016). This is in line with the constructivist

stance of post-colonial and feminist epistemologies in social science which highlight the way knowledge is co-produced by "'speaking with' rather than 'speaking for' research partners and participants" (Butcher 2020, 5; see also Kobayashi, 1994). In this section on "research relationships", I have highlighted their importance and the ways research participants, friends, and myself together have "produce(d) 'the field' and create a co-produced project" (England 2006, 288). Proximity to the participants helps gain a more accurate picture of lived realities. However, the fact of proximity and/or intimacy also raises ethical issues within research and should be accompanied by critical discussions on intersubjectivities and positionalities. This will be the focus of the next section.

5. 3. RESEARCH ETHICS: ON RELATIONSHIPS AND POSITIONALITIES

> L'engagement de terrain est le point de départ et le point d'arrivée de ce travail. En fin de compte, si cette thèse arrive à bon port, elle sera la preuve que l'analyse critique n'a pas à se défaire de l'empathie, que l'intimité des relations peut nourrir la rigueur scientifique, que la vie ordinaire est bien le coeur de la pensée politique (Buire 2011, 5).[54]

As described in previous section, ten months spent in the field led to innumerable encounters, discussions, and close relationships forged. As in most long-term ethnographic work, these experiences left a profound mark and I remain in regular contact with friends in Tajikistan. Such relationships put personal engagement during and after fieldwork into question. How do (or should) academics negotiate research relationships? What can be expected from them? Although there is no perfectly ethical way of building or maintaining fieldwork relationships, I have always attempted to stay aware of my responsibilities and vulnerabilities in the field. I consider it my responsibility to meet the expectations of people getting involved in the research, and I may experience vulnerability if it turns out to be challenging (or awkward) to simultaneously embody the professionalism of the researcher, the amazement of the traveller, the kindness of a guest, and sometimes the supportive attitude of a friend (see Van Maanen 2011; Kaspar and Landolt 2016; Butcher 2020). The ambiguity of our position as researchers and of the relationships we forge during fieldwork has fuelled considerable debate within the social sciences around issues of power imbalances between the researcher and the community, of the positionality of the researcher vis-à-vis the community under study, and of exchange as part of the common research experience (Kobayashi 1994; Van Maanen 2011; Butcher 2020). This section attempts to engage with such debates.

5.3.1. Negotiating fieldwork relationships and power imbalances

Relationships between the researcher and members of the community under study are at the heart of research ethics. They are expected to be characterised by mutual concern and trust (Kobayashi 1994). Post-colonial and feminist studies have theorised the relationship between "we" as researchers and "them" as "researched subjects" and the urgent need to reduce the

[54] "Field engagement is the starting point and the end point of this work. In the end, if this thesis is successful, it will be proof that critical analysis does not have to do away with empathy, that the intimacy of relationships can nourish scientific rigour, that ordinary life is indeed the heart of political thought" (translation by the author).

possibly violent, racist, sexist, or misanthropist power relationships within research (see Power, Mohan, and Mercer 2006; Butcher 2020). Central to this approach is the need to avoid extractive methods as much as possible when the researcher is in the field—meaning that they arrive, extract data, and then leave without forging stable relationships with the community under study. Some researchers call such a research endeavour "helicopter research":

> Helicopter research, parachute research, or neo-colonial research are synonymous terms which describe situation where researchers from wealthier countries (usually called global north, although Australia and New Zealand fit in this category), fly to a developing country (global south), collect data and specimens, fly out, analyse the data and specimens elsewhere, and publish the results with little involvement from local scientists. At best, local scientists are used to provide logistical support (Minasny et al. 2020, 1).

A consequence of helicopter research is that the geography of research and publications is uneven. For instance, in the context of research on the relationship between the environment and migration, Piguet and colleagues have demonstrated the considerable imbalances in terms of research geographies, showing that studies tend to be conducted by researchers based in the "Global North" who focus on populations in the "Global South" (Piguet, Kaenzig, and Guélat 2018). Among other explanations, the authors show that such biased discrepancies could be explained by the simplistic, Western-centric, and racialising gaze often adopted in the literature, which tends to consider that most populations from the Global South "correspond to the stereotype of poor populations as helpless victims" (Piguet, Kaenzig, and Guélat 2018, 373) and to the "typical" image of a "poor, dark-skinned, and colorfully dressed" (idem) environmental migrant (see also Baldwin 2013). Post-colonial ethics help us to reflect on the danger of such stereotypes, to abandon or at least take distance from Western- or Euro-centric representations, to critically analyse the geography of science, and to tend more towards collaboration and less asymmetrical relationships with local researchers and populations in our epistemologies (Pels 2014).

In a research context such as mine, where the researcher comes from a privileged institution of the "Global North" to study a not-so-privileged rural population of a country ranked among the poorest in the world, issues of power, exchange, relationships, and positionality of the researcher are salient. Ethnographers have long theorised such issues, which post-colonial studies and more recently feminist studies have emphasised (Kobayashi 1994; England 2006; Butcher 2020). Although it is challenging to find straightforward solutions, post-colonial and feminist studies prompt us to be aware of power issues and to integrate them as much as possible in our reflections and frameworks. Feminist studies for instance attach central importance to critical reflection on power relationships mediated by the age, gender, race, sexuality, or able-bodiedness of research participants, including the researcher(s) (Kaspar and Landolt 2016). They urge us to address and minimise power inequalities within research:

> Most recent poststructural feminist theorizing sees researchers and the researched as caught up in complex webs of power and privilege. Much feminist research is about marginalized groups, and there is a great deal of social power associated with being a scholar. Thus research strategies based on an embodied feminist objectivity have the potential to minimize the hierarchical relationship between researcher and

> interviewee, and to avoid exploiting less powerful people as mere sources of data (England 2006, 288).

My rather long-standing engagement with the field—and strong bonds established with Bartangi friends through shared everyday experiences—is hopefully one of the best ways to reduce power inequalities between the local community and myself. The following sections will provide detailed insights into the ways my positionality and relationships in the field were negotiated, thereby influencing the production of knowledge. For instance, learning how to become a respectful guest and honour Bartangi hospitality was a path towards mutual knowledge. This will be explored in the next section.

5.3.2. Being a guest in the Bartang Valley

In the Pamirs, residents consider guests as gifts from God. Although the recent development of international tourism may have modified certain sociocultural norms, Pamiri hospitality is not a myth (see Bliss 2006, 156). In the Bartang Valley, famous for its remoteness, hospitality is a core value. Discussing hospitality in a methodological section may seem unconventional but I would like to explain how it influenced research relationships, positionalities, and research methods, and also how it contributed, I believe, to reduce the distance between the Bartangi community and myself.

The Pamiris consider themselves hospitable and place great importance on this trait. In Pamiri houses, outsiders (those who don't belong to the household) are considered guests, be they neighbours, relatives, or foreign visitors. Guests are offered the most prestigious seats—in the *bolo* [upper] part of the "platform" where people sit, sleep, and eat—with the most comfortable *kurpacha* [mats] and pillows. The host(ess) usually quickly prepares tea, brings biscuits, dried fruits, and bread, and often cooks a meal—even if guests claim they are not hungry! Visiting people, entering their house, and drinking tea while enjoying *chakh chakh* [small talk] is a show of respect and sometimes affection to the hosts. As the anthropologist Aliaa Remtilla—whose dissertation examines post-Soviet political and economic change in Ishkashim (another *nohiya* [district] of the VMKB)—explains:

> The host is the giver in material terms in that they expend much in feeding the guest. But it is the guest who is the giver on a moral level, gracing the host with the opportunity to give (Remtilla 2012, 93).

Pamiri hospitality—and the way I adapted to and was imbued by it—shaped my fieldwork experience. Accepting an invitation to sit down and drink tea in each house I entered appeared to be inescapable. As I went from house to house with Qudrat or Munosibsho for interviews, the process indeed became protracted out of respect for local hospitality. We were considered as guests before researchers, friends, or relatives. The apparent pleasure experienced by locals when hosting a guest—especially a foreign guest—made me feel comfortable in all Pamiri houses. During my initial visits the region, I often worried about disturbing my hosts when staying in their homes for tea, lunch, small talk, or interviews. This feeling of discomfort fuelled discussions with my Bartangi companions about the notion of "disturbance", which most of them (and especially those who had travelled to the "Global North") considered an individualistic and Western notion, having no proper meaning in Bartang. Although this opinion

may sound a bit simplistic or romantic, my fieldwork experience has led me to believe that most Bartangi truly enjoy sharing knowledge with and being hospitable to strangers. This topic, however, deserves its own ethnographic research addressing human values and the sense of community and sharing in the Bartang Valley.

Considering how morally and spiritually valuable hospitality is in the Bartang Valley, being a guest there was, I believe, a nice way to rethink power relationships: I was a foreign researcher there to interview them, but while I was in their homes, they were my hosts, and therefore in a *powerful* position. This way of positioning an "outsider" contributed to re-balancing the assymetrical power dynamics within the research. As Kaspar and Landolt (2016) have demonstrated, power imbalances do not flow in one direction only. While hosting me and offering me tea, bread, and biscuits, the research participants were somehow leading the situation even though I was "conducting" the interview. Doing the interviews in a home setting, which seemed the most convenient place to proceed, was a good way to become familiar with the hospitality customs of the Bartangis and make interviewees feel at ease, as will be explained later. Here it is important to mention that Bartangi houses are not strictly regarded as private places. The front doors of houses are usually not locked, and visitors enter without knocking. In Bartang, it is acceptable to enter the house of someone you don't know without knocking and "to become a guest". In some villages and in some houses where residents were not used to hosting visitors from outside their communities, we were guests first and foremost and the conversation started questions about our parentage and in whose house we were currently staying. After these considerations of our identities and Qudrat's or Munosibsho's potential family links with our hosts, we explained the purpose of our visit. While some interviewees rapidly showed interest in the research topics, many seemed happy simply to have guests with whom to share a conversation. The value of hospitality in Bartang made it easier for me to conduct interviews with residents. However, this ease of access to opinions and perceptions was counterbalanced by occasional concern over how certain—potentially political or conflictual—opinions might be disseminated. I explained that they were free to not answer my questions and that anonymity could be respected if desired. However, these situations were rare and most of my interlocutors were happy to participate and to express themselves on the topics covered by my study.[55] In order to understand how I navigated communicating with my interlocutors during my fieldwork, it is now important to discuss my *positionality*.

5.3.3. Reflexive thoughts: Me in the field

-The importance of positionality

Interpretivist/constructivist approaches in social science, on which most ethnographers rely, urge us to recognise that knowledge is situated in a specific context, location, at a specific time, and is partial (Headland, Pike, and Harris 1990; Kobayashi 1994). This prompts us to think

[55] Consent and will to participate in a study are mediated by the participant's understanding of what constitutes an academic ethnographic study (see Macklin 1999 for a discussion on informed consent). Most of my interlocutors in Bartang were familiar with procedures of higher education and many had participated previously in studies by foreign researchers or local organisations.

critically and reflexively about our position as researchers (Foley 2002). As England writes, "Positionality is about how people view the world from different embodied locations" (2006, 289). Among other factors, our embodied location is determined by "how we are positioned (by ourselves, by others, by particular discourses) in relation to multiple, relational social processes of difference (gender, class, 'race'/ethnicity, age, sexuality and so on)" (England 2006, 289). The data collected is influenced and shaped by our embodied presence in the field and the ways research participants react to it (Kobayashi 1994).

The positionality of the researcher has often been theorised according to whether they are perceived as an outsider or insider in the community under study (Headland, Pike, and Harris 1990; Kobayashi 1994). The multiple social processes of difference cited above determine whether one belongs to a community (see Dery 2020) but these are so numerous that during fieldwork we may sometimes be positioned as insiders and sometimes as outsiders. For instance, the researcher may be perceived as an outsider because they do not originate from or live in the place under study but may simultaneously be perceived as an insider because they share the same culture, skin colour, gender, age group, or sexual orientation with the community under study.[56] Some authors have suggested going beyond the insider/outsider dichotomy and instead using the categories of first-hand or second-hand observers. For instance, Mostowlansky and Rota explain that "a member of a particular religious group can observe the other members of that group. Yet the instant this member performs such an operation, s/he carries out a second-order observation and thus becomes an outsider with respect to that particular group" (2016, 328–329). My experience in the field has been characterised by different levels of inclusion and exclusion depending on the situation and activities performed. For instance, when taking pictures and videos (see section 5.4.3.), I have often felt more an outsider since the camera materialised the fact that I was observing and capturing the moment, and since I was somehow displaying my alterity with the camera in hand. In other times, the fact that I was taking pictures and videos made research participants consider me to be an active 'part of' the community since my work would probably give a welcomed visibility to the region (perceived as useful for tourism for instance). The way I was considered more or less included in or excluded from the community also depended on different aspects of my positionality.

-How I was positioned

In my case, three aspects of my personal attributes shaped my research experience: my physical appearance, physical abilities, and language skills. First, regarding physical appearance, the Bartangis often claimed that I looked "exactly like" a Bartangi woman. The Pamiris speak Indo-European languages and many of them proudly affirm that they are genetically related to Europeans and physically resemble them. Despite the diversity of physical appearances in the Pamirs, the colour of my skin, eyes, and hair made me resemble many Pamiri women. This resemblance was an occasion for my interlocutors to joke about my potential ancestors from the Pamirs but was above all a way for me to navigate through "the field"

[56] See also Suyarkulova (2020) and her reflection on the positionalities of Central-Asian female researchers:
https://www.opendemocracy.net/en/odr/view-margins-alienation-and-accountability-central-asian-studies/

without people knowing prima facie that I was an "outsider". Thus, similarly to what Powell wrote in the context of South Africa, "it became apparent that my physical appearance automatically relegated me to an 'insider,' awarding me a certain and perhaps undeserved membership in the field" (2017, 400). This enabled me to be "inducted into friendships and activities that may not have been so easily accessible [to me] otherwise" (Powell 2017, 411).

Second, with regard to physical abilities, the Bartangis often emphasise their health and bodily strength given their mountainous living conditions and daily physical work. Travelling to, from, and within the Bartang Valley, on foot, by bicycle, and even in a car is highly physical given the topography and state of the road. Although my physical condition was not as good as some of my fellow travellers, my physical abilities in the field were central during journeys between villages. Doing physically demanding activities together often brought me closer to my Bartangi interlocutors. They usually were happy to see me doing these activities which they thought were quite "exotic" to me. I was sometimes asked, "Pyoda raftan metavoni [Can you walk]?" which confused me. People were actually curious to know if I could walk long distances. Some believed that because I was from a "rich" country, I was not used to walking (which was not true in my case). The mobile methods I have used have been strongly determined by my physical condition and embodied experiences on the move and the way people reacted to my physical abilities during journeys (see Article 3, Section 5.4.4) or daily chores ("Can you handwash your clothes?"; "Can you cut the grass?"). My physical abilities and skills were a way to understand how I was considered and positioned by myself and others in the field.

Third, concerning language skills, my intermediate level of Tajik (*tojiki*) allowed me to communicate directly with my interlocutors, a skill which has improved over the years. Tajik is the primary language spoken and studied at school in the Pamirs since the Pamiri languages do not have formal written versions. Although some Pamiri consider their Tajik poor because they don't practise it on a daily basis, they all have a comprehensive understanding of it. The fact that Tajik is the "second language" of the Bartangis probably made them more tolerant to my own skill level. As my Tajik was far from fluent, I was often frustrated at my inability to express myself and understand ideas better. My level of Bartangi was extremely poor although the vocabulary in common with Tajik helped me to grasp bits of conversations. During interviews, I was often able to follow the main ideas expressed, which helped the translator and myself during the translation process (see Section 5.4.2). The Bartangi language is spoken by a rather small community (about 6,500 individuals, 4,000 of whom speak the Bartangi dialect and 2,500 the Roshorvi dialect, which are sometimes considered the same). The Bartangis showed great enthusiasm when I expressed basic things in Bartangi. My level of Tajik and smattering of Bartangi played an important role in building relationships with research participants. However, the fact that I was not fluent in the local language positioned me as a cultural outsider. However, thanks to their strong hospitality tradition, the Bartangis quickly accepted my presence in their houses and made me feel "at home". In some situations, people joked that I was "becoming Bartangi" because I returned every year and was learning local dances, knitting with local wool, and learning to cook traditional dishes. Close friends would often claim that their house was mine even though I was still considered a guest every time I

visited, and therefore received the best treatment. Only some very close families would let me participate in their daily chores.

-Long-distance relationships and closeness

In Bartang, most households include at least one member who works elsewhere, in Moscow or in Dushanbe for instance, and are therefore used to long absences. The fact that I visited every year (or twice a year) meant that some families saw me more often than some of their close relatives who had been away for years. This, I think, reinforced our mutual attachment. As Remtilla expresses about Jia and Dedi, her "host parents":

> Jia and Dedi are used to arrivals and departures and the absence of close kin. Their two sons live in Moscow and their daughter lives in Dushanbe. I have become, like them, a migrant, geographically absent from the homeland but still active in the network of relations that constitutes "home" (Remtilla 2012, 34).

Each time I visited, the more I felt at ease among the Bartangis, who most of the time made me feel as if I was part of their group. Following local practices, I have been and sometimes still am called a sister, a daughter, or an aunt by many close participants.

This blurred position between insider and outsider, involved and detached, present and absent may be difficult for the researcher to manage on scientific and personal levels, but it may also help to develop reflections on the community under study since the conflicting positions lend a wider perspective on the issues examined (Fassin 2013). As Naeke and colleagues explain, "Without both insiders and outsiders making their respective brush strokes, the canvas will probably never be completed" (Naeke et al. 2012, 9). Although I remain a foreigner and a cultural outsider with socioeconomic privilege, doing research in Bartang was an intense social experience. Differences and power imbalances will always exist, but as Kobayashi argues, "Commonality is always partial [and so] field research and theoretical analyses have more to gain from building commonality than from essentializing difference" (Kobayashi 1994, 76). Building such commonality may happen through exchange and through the construction of a mutually beneficial project.

5.3.4. Exchanging? Giving back?

Post-colonialist and feminist studies have emphasised the need to exchange knowledge with and to "give back" to the community who has "hosted" the research (see Faria and Mollett 2016 for an example). What the researcher gives back may take multiple forms and have different values. Of course, there is no perfectly equal way to give back but rather than looking for the perfect solution, research should at least reflect upon and engage with the issue. What did I "take"? And what did I "give"?

Although communicating research results and outcomes to the community under study is a great and important form of exchange, access to results and their comprehension is not always straightforward. Even in a region such as Bartang—where the literacy rate is high and many residents hold a university degree—the academic language and concepts may be challenging to understand. I attempted to communicate intermediary research results whenever I went to the field to meet interviewees or other researchers. But to be honest, many were not so interested

in them. Some of the "main informants" (see Section 5.2.3) were happy to confront their ideas with mine and would tell me honestly what they thought about my research, but others were more interested about my life in Switzerland or France and how my relatives were doing, than about topics they knew too well such as environmental disasters, the state of the road, rural-urban mobilities, or mobility aspirations. Would it be appropriate to insist that people listen to my research questions and results if they were only curious about other aspects of my life in Europe? Every time I came back to a village, people would express joy to see me again and many would ask if I was still studying and if my research was complete. They were happy to help with my research endeavour but were not too curious about it. However, my Bartangi interlocutors often asked if I was writing a book about Bartang and expressed interest about the possible realisation of a book on their valley, which would be an object of pride for the Bartangis and would possibly attract more foreigners, be they tourists, researchers, or part of a humanitarian project.[57] I explained that the articles I was publishing were certainly a way to talk about Bartang to various audiences. However, academic research outcomes should ideally be more accessible, and I am considering disseminating works in the future that aim to be more accessible, creative, and "friendly" than academic works.

In terms of formal academic exchange, my stay at the University of Central Asia in Khorog in the spring of 2020 gave me the opportunity to present my research to students, a majority of whom were from the Pamirs. During more informal exchanges with students, we discussed various aspects of my research. My stay in Khorog also allowed me to meet and exchange ideas and knowledge with Prof. Murodbek Laldjebaev and Prof. Sultonbek Aksakolov, researchers who are from the Pamirs and currently doing research on the region. Prof. Aksakolov is from the village of Roshorv, in the Bartang Valley. Our (ongoing) scientific exchange has been a great opportunity for me to discuss research outcomes with a scholar from one of the main field sites. I believe local scholars, and especially within a small and tight community such as the Bartang, are in a crucial position to help to circulate research results.

"Giving back" does not only have to do with scientific research results. The fact that I came back every year since 2016 and spent as much time as possible with friends has been for me the clearest way to demonstrate respect and to show how much I *cared* about the community. People appreciated hearing stories about my country and my family, asking questions and wanting to see pictures and videos from my previous trips. Several times, I brought printed pictures and showed videos (edited or raw) taken during previous trips. My Bartangi friends were particularly eager to watch wedding videos, which were an occasion to comment on dances and the performances of local musicians. Most importantly, it was also an occasion to see some of their Bartangi relatives who had not been seen for a long time, some of whom had since migrated to Dushanbe or Moscow. As Remtilla notes:

> Watching wedding videos […] comforts both those at home and those away with the knowledge that they are remembering kins who are spatially distant and, given that others will be watching wedding videos as well, they are also less likely to be

[57] In the village of Basid, my friends frequently told me about a group of German doctors involved with the humanitarian project "Pamir Hilfe" (https://pamir-hilfe.de/) and a group of Swiss people who built the hydropower station in the village (http://pamirlink.org/).

> forgotten. They enable migrants to be present in the memories of those watching the wedding video from their houses in Ishkashim and enable those in *watan* [the homeland] to also be remembered by migrants (2012, 124).

Every research experience is different and may offer different opportunities for exchange and mutual benefits to both participants and researchers. Having presented the organisation of the fieldwork, research relationships, and ethical thoughts, the next section delves into the research methods implemented.

Figure 12: Wedding day in Savnob. July 2017. © S. Blondin

Figures 13 and 14: A wedding in Roshorv. July 2018. © S. Blondin

5. 4. METHODS

> I would like to see us devise methods and methodologies that maximize the chance that we will see things we were not expecting to see, that leave us open to surprise, that do not foreclose the unexpected (Hanson 1997, 125).

My research relies on a long-term ethnography conducted over four years that involved a combination of qualitative research methods. In order to maintain healthy and well-balanced research relationships, I have avoided intrusive work methods, instead prioritising culturally responsive and ethically sound methods that are "situated within the lived experiences and frames of reference" (Gay 2002, 106) of research participants. Thus, my methods have been chosen, modified, and adapted progressively according to my fieldwork experiences and encounters as I travelled back and forth to the field and learned more about life in the Bartang Valley. This methodological approach was inspired by grounded theory in social science, as described earlier. The preliminary fieldwork conducted in 2016 was intended as a way to familiarise myself with the region under study and to choose the main field sites. Since 2017, interviews have been conducted and participant observations, mobile, and audiovisual methods progressively emerged as central to the research. The next section explains how these methods have been implemented in my work.

5.4.1. A participant observation of everyday mundanities

Observing practices, micro-mobilities, gestures, and the mundanity of everyday life in Bartang has been central to my research in a rather traditional ethnographic way. This section reflects on the ways I conducted participant observation and elaborates on the epistemologies behind my way of observing and participating.

My observations mostly focused on daily practices and corporeal routines as a way to access the everyday, the mundane, the ordinary, and maybe even the superfluous in Bartangi life. The focus on these practices aligns with a particular epistemological stance, or the "non-representational theory", which has been largely developed and theorised by geographer Nigel Thrift (2008). Although ethnographers have a long history of observing the everyday, as Vannini explains:

> Non-representational ethnography seeks to cultivate an affinity for the analysis of events, practices, assemblages, structures of feeling, and the backgrounds of everyday life against which relations unfold in their myriad potentials. Non-representational ethnography emphasizes the fleeting, viscous, lively, embodied, material, more-than-human, precognitive, non-discursive dimensions of spatially and temporally complex lifeworlds (Vannini 2015a, 317).

Non-representational ethnography invites us to adopt a "weak ontology" (Thrift 1996) by examining the "habitual and unconscious actions [which] work to repeat and reinforce social ideas, norms or ideologies because they are taken as habitual and unthought" (Adey 2006, 179). Non-representational theories draw on the "post-structuralist" movement within the social sciences and address what people do, how they move, and where they go rather than what they say or what they perceive. The non-representational approach invites us to incorporate non-discursive, pre-cognitive, lived and embodied practices and events into our research. This

means that non-representational researchers may rely on data which are not only textual and discursive (commentaries, discourses, conversations and interviews), but also on observations and practices of activities, journeys and events with an emphasis on the embodied and sensuous experiences of those. In other words, non-representational theories are more interested by what people do than by what they say. As Knopp explains:

> Thrift in particular advocates what he calls a "weak ontology" that focuses on lived experiences and unmediated social practices. Place, then, becomes a conjunction of time- and space-specific material practices, only minimally mediated (if at all) by processes of representation such as abstraction and interpretation (Knopp 2006, 222).

In order to focus on such experiences, I intended to observe, experiment, and engage physically within the fieldwork. Participant observation of daily practices was both a way to formulate relevant questions and to answer them. Since some practices, including mobilities, are both representational (to which people give meaning and interpretations) and non-representational (performed without any particular reflection), participant observation was a first step towards interviews. For the specific case of mobilities, Adey argues that "there is more to mobility than just what meets the eye" (Adey 2017, 170), hence my desire to engage physically and to be in motion in the field in order to get an embodied experience of (im)mobilities (see Article 3, Section 5.4.4).

The observation becomes participant when the researcher takes part in the activities of the group being studied (see Schutt 2012). My embodied experience of a variety of activities in the field was also an occasion to observe residents performing these activities. Within this research, I mostly observed daily life in a participant's house (whether I was invited or visiting), garden, or lands and during travel either within their village, between villages in the Bartang Valley, or from Bartang to Khorog, sometimes on foot and mostly in shared cars. These observations familiarised me with Bartangi lifeworlds and activities both inside and outside the home. For instance, in different villages and houses I observed how people circulated, where they collected wood or water (as most houses don't have running water), what they ate, how much land and how many trees and animals they possessed, where they liked to spend time, and how they communicated and exchanged with neighbours. Inside houses, I observed how people spent their time and the ways daily chores and activities were socially distributed. Of particular interest to my research were human-environment relationships and the ways the Bartangis interacted with their biophysical surroundings, notably rivers, streams, brooks, lands, and trees, among others. The observation of collective volunteer community work such as repairing water channels or roads also revealed invaluable information concerning socioeconomic aspects of local livelihoods.

This ethnography of everyday life in the Bartang Valley and the observation of ordinary activities, events, and (im)mobilities formed the core of knowledge production within this research. The attention paid to actions, activities, and gestures were completed with interviews in order to analyse their representational dimensions and the ways they are imbued with meanings and symbols.

5.4.2. Interviews and other conversations

-Interview goals and topics covered

Semi-structured interviews and more-or-less informal conversations constituted other central methods in this work. These enabled me to delve into the meanings, perceptions, and representations of the actions and processes under scrutiny and primarily of mobility and immobility (see Adey 2017 on mobility as representational). At the beginning of this research (and mostly in 2016 and 2017), Qudrat and Munosibsho—the local research assistants—and I conducted semi-structured interviews with residents of Bartang about their risk perceptions (environmental risks in their village or on the road; see appendix 1, section 10.1). The way people reflect on hazards (and the fears they induce), their sense of being protected (or not), and the ways they adapt to difficulties, have been understood mostly during these interviews and other types of conversations with local friends. Through these conversations and interviews, I intended to comprehend residents' mobility habits, histories in terms of (im)mobilities, and sense of place. The way interviewees expressed their love for their valley and their village and the reasons why they decided to remain in the Bartang Valley have greatly helped to deepen these issues (see appendix 2, section 10.2). This is also why I decided to make a short film including extracts of interviews on these topics in order to highlight the words of interviewees (the film features in Article 4, Section 6.2). Thus, through conversations, more subjective and representational aspects of immobility and mobility were addressed.

-Interviewees

We conducted a total of 70 semi-structured interviews (see appendix 3, section 10.3, for details on interviewees' profiles). Interviewees were chosen randomly according to their willingness to participate. Sometimes they were chosen according to a specific profile (they had been displaced by environmental hazards or had a particular experience of mobility in the Valley). Most interviewees were above 40 years of age, because younger people would often express that they had "nothing to say". Despite encouragement, young people were rather difficult to interview. This could be explained by a culture of shyness and humility of many youth in Bartang as well as the extreme respect expressed to elders, who are considered more "knowledgeable". Luckily, throughout the years I met quite a few students and young adults under 40 with whom I had many informal conversations. This brought more diversity to the sample. As mentioned earlier, the interviews took place in people's houses or sometimes in their garden. Ensuring that interviewees feel comfortable while being interviewed is central to the quality of the exchange (McGrath, Palmgren, and Liljedahl 2019; DiCicco-Bloom and Crabtree 2006). Conducting interviews in participants' homes also helped, I argue, to reduce power imbalances during the process since interviewees felt at ease when at home. Most interviews lasted between 30 minutes and one hour, or even longer if we were invited to share a meal and pursue the conversation in an informal and friendly way.

-Semi-structured interviews

The choice to conduct semi-structured interviews was motivated by the desire to follow an interview guide while remaining flexible and adaptable according to the responses and motivations of the interviewees (DiCicco-Bloom and Crabtree 2006). I wanted to give my interlocutors the opportunity to redirect the interview towards topics that they considered important or on which they wanted to express themselves (such interviews can also be coined

"intensive interviews"; see Schutt 2012, 304). The interview guide changed progressively as research questions were modified or as field observations suggested new research focuses. Sometimes, with talkative interlocutors, the interviews were redirected in multiple directions. Sometimes, interviewees also asked me about my opinions on certain matters. The interview could therefore turn into a rather free conversation. Since interviews were taking place in people's houses, and since most houses in Bartang have only one central room (see the footnote in Section 5.2.1), family members, neighbours, or relatives often popped in and sometimes joined the conversation. As a way to respect people's hospitality and cultural practices within the house, I let all the interlocutors express themselves and attempted to integrate their interventions in the best possible way in my notes.

-Languages and translations

All interviews were conducted in Bartangi, and sometimes partly in Tajik (if the interviewee wanted to speak to me directly). Most of the time, the translator/assistant would take notes and translate simultaneously while I took as many notes as possible. The real-time translation was time-consuming, especially for the interviewees, but allowed us to build group cohesion where the presence of Qudrat or Munosibsho worked as a cultural bridge and to create proximity between myself and the interviewees. Of course, simultaneous translation is a difficult task. Some of the interviewees' words could get lost in the process, especially since I only took notes from the translated version. Most interviews helped me to examine the frequency and practical aspects of mobilities, perceptions of climate variability, and cultural aspects of human-environment relationships but did not allow for deep linguistic, discursive, or rhetorical investigation since they were not recorded. Only ten interviews with willing participants were recorded on video with the goal to make a short documentary film focusing on the expression of place attachment. I decided not to record most of the interviews because the request to do so often embarrassed interviewees and because the "collective" aspect of our interviews—similar to the one depicted by Loubere regarding his fieldwork experience in rural China—meant that recording interviews was not always suitable:

> Other times, participants were happy to have an informal conversation with me, but became withdrawn and non-communicative after I requested their consent to record. Additionally, in my experience, an interview with a single participant can spontaneously transform into a group interview if friends, family, or neighbours become curious. Some of these impromptu participants come and go throughout the conversation making it difficult to request their consent to be recorded for ethical purposes, or identify them during the transcription phase in order to put their responses into context (Loubere 2017, 6).

Although not recording interviews limits the treatment of the results—notably, the extraction of precise quotations used during analysis—recording and verbatim translation is not always beneficial, as Loubere notes:

> By transforming speech into text and largely eliminating observation and non-verbal communication, verbatim transcription necessitates the valorisation of the written word over other types of data. Meaning is reduced to the literal words that are spoken and transcribed. Knowledge is derived from the textualisation of the fieldwork experience. While the narrow focus on precise wording is necessary for

> research examining discourse and use of language, it is not necessarily appropriate for all research in the social sciences. This urge to capture experiences and interactions, and reproduce them exactly in written form is, perhaps, rooted in our tendency to equate the written word with validity and permanence (an affliction that is particularly acute among members of the academy) (2017, 6).

Thus, in the context of this research, recording was not always necessary. Knowledge emerged from a multiplicity of methods and attention was not always focused on discourse. However, the ten interviews that were video-recorded enabled me to insert verbatim quotations in some of the articles present in this dissertation, especially on more representational aspects of sense of place, risk perceptions, and relationships with the village and the community. These were conducted without simultaneous translation but were translated afterwards and transcribed verbatim by Munosibsho or Qudrat. Most of these interviewees agreed to be recorded either because they knew me well or because I had recorded them during our second interview and they were therefore more comfortable with the process.

In sum, countless discussions as well as interviews allowed me to complete my observations of practices and to apprehend more representational aspects of (im)mobilities in Bartang. In other words, talking to and interviewing people helped me to understand the meanings they attach to (im)mobilities, how much they value their homeland, or how they perceive the risks inherent in their livelihoods. They also provided access to anecdotes, stories, and historical facts. The next section explores another method which provided core insights: video-making.

*5.4.3. **ARTICLE 2**: Filmer la montagne et l'isolement : Les dimensions matérielles et sensibles de l'attachement au territoire et de l'accessibilité*[58]

5.4.3.1. Introduction to the article

Although making videos during my fieldwork was initially a spontaneous way to capture moments and memories, it eventually constituted a research method per se. In the article presented in this section, I collaborated with Anne Barrioz, PhD student in geography from the EDYTEM Lab of the Université Savoie-Mont-Blanc, to reflect on how filming in "remote" mountain valleys in France and Tajikistan fostered our research on place attachment and accessibility. This article is part of a special issue edited by Laura Corsi and Dr Chloé Buire, two of the organisers of the conference "Le film dans la pratique de la géographie",[59] which took place at the University of Bordeaux in March 2018.

5.4.3.2. Abstract and keywords (French and English)

-Résumé : L'audiovisuel permet de stimuler une réflexion épistémologique, méthodologique et éthique chez le géographe. Dans cet article, nous souhaitons montrer quels sont pour nous les avantages et enjeux d'une démarche filmique et sensorielle en géographie. À travers les

[58] This article was co-authored with Anne Barrioz (CNRS / Université Savoie Mont-Blanc, Laboratoire EDYTEM) and published in the Revue Française des Méthodes Visuelles, Volume 3 (2019). URL: https://rfmv.fr/numeros/3/articles/2-l-audiovisuel-en-contexte-de-montagne-et-d-isolement/

[59] "Filmmaking in the practice of geography" (translation by the author).

exemples de nos recherches doctorales en cours et qui portent sur des questions d'habitabilité, d'attachement au territoire et de mobilité dans des vallées de montagnes au Tadjikistan et en France, l'objectif est ici de mettre en avant l'intérêt des vidéos pour révéler, discuter et mettre en perspective ces processus.

-Mots-clés : audiovisuel, géographie sensible, montagne, isolement, mobilité

-Abstract: An audiovisual approach stimulates an epistemological, methodological and ethical reflection in the geographer. In this paper, we want to highlight the advantages and the stakes of a filmic and sensitive approach in geography. Through examples from our doctoral researches, which focus on issues of habitability, place attachment and mobility in mountain valleys of Tajikistan and France, our aim is to point out the benefits of videos in order to reveal, discuss and put these processes into perspective.

-Keywords: audio-visual approach, sensitive geography, mountains, remoteness, mobility

5.4.3.3. Introduction

L'audiovisuel occupe une place marginale dans la géographie contemporaine même s'il intéresse de plus en plus les géographes. Le colloque "Le Film dans la pratique de la géographie" organisé en mars 2018 à Bordeaux a clairement mis en lumière cette tendance. Les géographes qui prônent et encouragent la réalisation de vidéos/films insistent tout particulièrement sur les intérêts heuristiques et méthodologiques de la vidéo en géographie. Les réflexions sur l'intérêt et la place à accorder à l'audiovisuel dans notre discipline vont de pair avec une réflexion épistémologique et éthique profonde. La convergence de nos objets de recherche ainsi que de nos démarches audiovisuelles exploratoires nous ont encouragées à rédiger ce présent papier, qui vise à souligner les nombreux atouts de la vidéo pour le géographe à travers deux cas de recherches doctorales en cours. Cet article s'inscrit dans le cadre de nos travaux doctoraux menés dans des espaces de montagne "isolés[60]" en France et au Tadjikistan. La recherche menée par S. Blondin s'effectue dans le massif du Pamir, dans la région du Kuhistoni-Badakhshon au Tadjikistan, et principalement dans la vallée du Bartang. Celle conduite par A. Barrioz se déroule dans huit hautes vallées des Alpes françaises (Haut-Giffre, Beaufortain, Haute-Maurienne, Valbonnais, Valgaudemar, Queyras, Haute-Ubaye, Haute-Tinée). Ces deux thèses, menées sur des territoires éloignés, ont en commun d'utiliser la vidéo pour interroger l'isolement et les mobilités locales à travers des approches spatiales sensibles. La dimension sensorielle du fait de vivre en montagne, de se déplacer et d'accéder à ces espaces constitue un fil directeur de nos deux démarches audiovisuelles.

Cet article revient sur l'usage du travail filmique autour de trois parties que nous développerons successivement. La première partie analyse comment la vidéo nous a permis de saisir les dimensions visuelle et sensorielle de notre discipline. D'une façon générale, avoir recours à une caméra permet de travailler son regard. Il ne s'agit pas seulement d'enrichir les

[60] Nous utilisons dans ce papier les termes "isolé" et "isolement" dans leur usage commun bien que nos travaux discutent et critiquent justement cette notion.

observations mais également de prendre position sur son terrain. Nous y voyons une opportunité de construire une géographie sensorielle et incorporée, particulièrement pertinente pour nous puisqu'elle permet d'interroger les contraintes de déplacement liées à l'état changeant des routes et aux conditions de vie particulières des hautes vallées. La seconde partie montre plus concrètement comment l'audiovisuel permet une analyse plus rigoureuse de la montagne comme espace vécu, franchi, traversé. Nous avons ainsi filmé les paysages de montagnes et l'environnement auxquels les Pamiris (habitants du Pamir) et les Alpins sont vivement attachés, ainsi que différents aspects de la vie quotidienne dans les villages des vallées. Le rapport sensible à l'espace de montagne évoqué par ces résidents prend corps à travers des scènes de paysages visuels et sonores qui reflètent les caractères singuliers de ces confins et les liens avec la « nature ». Cette approche par les espaces du quotidien permet de mieux appréhender les discours des habitants sur leur attachement physique et sensible à leur vallée. Dans un troisième temps, nous discutons de la place qui peut être donnée à l'audiovisuel dans une thèse de géographie en soulignant les possibilités offertes par cet outil mais aussi les incertitudes qui l'entourent. En effet, si nous sommes au départ des autodidactes sur le plan technique, nous nous sommes rapidement rendu compte que les matériaux audiovisuels que nous avons récoltés, s'ils permettent une valorisation originale des résultats de recherche, notamment auprès des acteurs des territoires intéressés, ajoutent aussi une dimension à notre réflexion théorique qui influence finalement l'ensemble du projet de recherche

5.4.3.4. Préambule méthodologique : notre découverte de l'audiovisuel

Notre envie d'utiliser l'audiovisuel dans la thèse s'est construite de façon spontanée, au fur et à mesure de notre cheminement de recherche. Il s'est premièrement agi de filmer pour rapporter des archives de paysages et de situations diverses mais également dans le but d'observer de façon plus attentive la matérialité des environnements que l'on rencontrait sur le terrain (nous reviendrons sur ce point dans le corps de l'article). Nous avons également eu l'envie de filmer certains éléments que les personnes que nous interrogions mettaient en exergue (une rivière cruciale pour les besoins en eau, une montagne particulièrement dangereuse, une portion de la route régulièrement problématique…) lorsque nous discutions des liens entretenus avec leur lieu de résidence. Ainsi, une partie des séquences n'ont pas été pensées au préalable, par exemple, lorsque l'on filme un trajet en voiture ou à pied dans des conditions météorologiques difficiles. A contrario d'autres découlent d'éléments issus d'autres méthodes de travail (suite à un entretien).

Notre façon de traiter les images varie également beaucoup. Certaines images sont visionnées sur le terrain, d'autres ne sont pas visionnées avant le retour, mais des semaines plus tard. Au Tadjikistan, Suzy a également organisé des visionnages collectifs avec des participants à la recherche suivis de discussions critiques spontanées.

Cette découverte progressive de l'audiovisuel est due en partie à notre absence de formation spécifique. L'une d'entre nous a suivi une option audiovisuelle dans le cadre du Master Géographie des Pays émergents et en Développement de l'Université Paris 7 qui a surtout stimulé une réflexion théorique sur l'audiovisuel en sciences sociales. D'un point de vue technique, nous devons toutes les deux reconnaitre notre amateurisme et un apprivoisement des outils visuels de façon instinctive et autodidacte. Notre matériel, léger, plutôt bon marché et

amateur, incarne la simplicité de notre technique. Dans les Alpes, un appareil photographique numérique compact avec option vidéo (qui a remplacé un reflex utilisé au début) est utilisé avec un petit trépied flexible. Au Tadjikistan, c'est un appareil photographique numérique reflex avec option vidéo qui est utilisé. Dans les deux contextes, un enregistreur est utilisé aux côtés des appareils photographiques lorsque cela nous semble particulièrement important (interlocuteur qui se situe loin de la caméra dans un plan large, chant d'un oiseau qui doit se distinguer d'autres sons se superposant). D'autres détails sur notre démarche audiovisuelle et sur les effets escomptés de nos films seront donnés tout au long de ce travail.

5.4.3.5. Filmer : pour une géographie visuelle et dynamique

Dans cette première partie, nous proposons une réflexion sur l'intérêt spécifique de la vidéo en géographie en soulignant les dimensions visuelle et dynamique de notre démarche. Aiguiser son regard avec cet outil permet de mieux appréhender le monde physique et ses aspects mouvants. Nous montrons ainsi l'importance de la construction du regard des géographes en général mais aussi de l'intérêt du mouvement et de la mobilité pour comprendre les territoires de montagne de façon spécifique.

-Filmer pour travailler son regard

La géographie est une discipline profondément visuelle, comme l'atteste notamment son utilisation traditionnelle des cartes et du concept fondamental de paysage (Chatelain 1989). L'acte de filmer permet au géographe de renouer avec les racines visuelles de sa discipline. En filmant, le géographe va réfléchir à son angle de vue et donc à une notion primordiale dans sa discipline : la notion d'échelle. Qu'est-ce que le géographe doit regarder et considérer ? Comment va-t-il délimiter le cadre de sa vidéo et le cadre de sa recherche ? La caméra, comme l'expérience du géographe, vont faire des allers-retours entre plans serrés intimes (vidéo 1) et plans larges englobants (vidéo 2).

La vidéo nous est apparue comme un outil privilégié pour entraîner notre regard dans des contextes où l'environnement physique joue un rôle central en tant qu'aménité à laquelle on s'attache ou en tant que facteur de dangers fréquents que l'on redoute par exemple. Elle apparaît comme un outil spontané d'observation permettant de prendre du recul sur une situation en train de se dérouler.

Vidéo 1 – Gros plan sur un fossé d'irrigation, village de Basid, vallée du Bartang (© S. Blondin, juillet 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo1.mp4

Vidéo 2 – Paysage du village de Bardara, vallée de Bardara, avec le son de la rivière très présent (© S. Blondin, juillet 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo2.mp4

L'étude de paysages et le concept même de paysage peuvent nourrir et être nourris par le travail de prise d'images. J.-L. Tissier définit le paysage comme tel : "Agencement matériel d'espace – naturel et social – en tant qu'il est appréhendé visuellement, de manière horizontale ou oblique, par un observateur. Représentation située, le paysage articule plusieurs plans, permettant l'identification des objets contenus et comprend une dimension esthétique" (Lévy et Lussault 2013, 753). En lisant cette définition, le lien entre cadre (de la photographie ou de la vidéo) et paysage semble presque évident.

En ce qui nous concerne, la caméra a stimulé l'observation des reliefs escarpés qui font craindre aux habitants avalanches ou chutes de pierre, de portions de routes inondées qu'on hésite à emprunter ou de cours d'eau dans lesquels on aime se rafraîchir. Notre attention a fait des allers-retours entre le gigantisme de la montagne et la petitesse d'une habitation, entre la largeur d'un torrent et l'étroitesse d'un fossé d'irrigation, entre le silence d'un village et le brouhaha d'un bistrot lorsque la porte s'ouvre.

De même que "le paysage n'est pas une notion reposante qui s'accommode de la contemplation passive" (ibid. 753), l'acte de filmer et le choix du cadre nécessitent une posture active face à une situation et à un espace, qui font appel aux différents outils du géographe. Comme le dit le géographe D. Linton concernant le dessin :

> There is no better way of becoming seized of the characteristic features of any landscape than by sitting down and making a drawing of it. The drawing is not merely a record. It is a means of enabling the geographer to see what he looks at and a step towards understanding what he sees[61]. (Linton 1960, cité in Sidaway 2002)

La caméra peut matérialiser l'outil "regard" et mettre en lumière son intérêt comme outil central de la géographie. D'ailleurs, une observation filmée donne au chercheur un statut plus actif que celui du simple observateur et peut parfois lui permettre de légitimer sa présence sur ses lieux de recherche. J. Rouch expliquait que lorsqu'il filmait, il devenait "ciné-Rouch" (interview filmée avec P.-A. Boutang 1992) et adoptait ainsi une nouvelle attitude, une nouvelle posture active. Comme le dit M. Ernwein (2015, 225) dans le cas de l'utilisation de la vidéo pour sa thèse : "Actionner la caméra me permettait de montrer que j'étais active, presque au même titre que les personnes en train de travailler que je filmais. Faisant moi aussi mon travail, la caméra me donnait une raison d'être là."

Pour nous, la caméra a pu aussi permettre de légitimer une observation rapprochée de pratiques domestiques quotidiennes et aussi de trouver sa place dans un groupe de voyageurs dans le cas de la co-itinérance au Tadjikistan. Les participants à la recherche comprennent parfois mieux la volonté de les suivre pour les filmer plutôt que pour seulement être là et les regarder.

[61]Traduction libre : "Il n'y a pas de meilleur moyen d'être saisi par les caractéristiques particulières d'un paysage que de s'asseoir et d'en faire un dessin. Le dessin n'est pas une simple archive. C'est un moyen de permettre au géographe de voir ce qu'il regarde et un pas en avant vers la compréhension de ce qu'il voit" (Linton 1960, cité dans Sidaway 2002).

La prise d'images apprend aussi à regarder et à comprendre ce que l'on regarde : "le film comme la photo devraient être les moyens privilégiés de la restitution du regard" (Browaeys 1999, 26). La vidéo permet de sélectionner l'information sur le terrain et les éléments à intégrer dans le cadre de l'image.

M. Ernwein a intitulé une sous-partie méthodologique de sa thèse "Filmer pour observer" où elle démontre à quel point cette pratique permet de "développer un regard compétent" et d'"adopter un mode d'attention particulier" (Ernwein 2015). Le théoricien du cinéma Kracauer parlait quant à lui des "fonctions de révélation du cinéma" qui permettent de découvrir (au sens propre), de voir et de mettre en présence des phénomènes (Kracauer 2010, 87).

Au Tadjikistan, une observation filmée, longue et attentive de la topographie des villages a permis de mieux appréhender les discours des habitants sur leurs perceptions des risques environnementaux. L'observation attentive d'éléments matériels autour desquels se cristallise l'attachement au territoire est également une façon de mieux se saisir des choix résidentiels ou de l'habitabilité d'une vallée de montagne. C'est le cas dans les Alpes, où la caméra a été posée pendant de longues minutes au-dessus d'un village ou en face d'une montagne emblématique. En plus de réussir la prise de vue, ces moments permettent de prendre le temps d'appréhender ce qu'il se passe, d'observer les interactions entre des habitants, de s'imprégner du mouvement à travers le passage de voitures, etc., et de pouvoir visionner cela plus tard, au moment de la rédaction.

À travers la superposition de différents sons corrélés avec le paysage visuel, l'audiovisuel constitue un véritable apport pour la géographie. Il est autant un "élément de dispositif d'enquête, support d'observation et d'analyse […] [qu'un] puissant révélateur, un élargissement de l'enquête orale […] et une source de connaissances du passé" (Lynch 2017, 13). C'est notamment en cela que l'audiovisuel a un potentiel heuristique fort pour le géographe. La vidéo, comme d'autres techniques visuelles, est ainsi utile au géographe dans la mesure où elle lui permet d'éduquer et d'entraîner son regard, ce qui peut l'aider à se saisir de la dimension matérielle de l'espace dans ses aspects stationnaires et mouvants.

-Filmer une géographie en mouvement

La photographie est plus courante que la vidéo en géographie et accompagne souvent articles, mémoires et thèses. Toutefois, l'image fixe ne retranscrit qu'une infime partie des dynamiques spatiales puisqu'elle ne mobilise que la vue, laissant de côté les ambiances sonores ou le son du vent, très présents dans les territoires montagnards qui nous occupent. De plus, l'image statique manque de profondeur dans l'appréhension des perceptions et des représentations spatiales. Le paysage, le décor d'un espace, l'atmosphère d'un lieu sont mobiles. Et c'est notamment pour cette raison que la vidéo s'avère particulièrement intéressante à intégrer dans une réflexion sur l'isolement en montagne. Les vidéos révèlent une richesse d'éléments à observer et à analyser : déplacements contraints par une inondation ou un glissement de terrain (vidéo 3), mouvement et son de la rivière qui alimentent la vallée (vidéos 4-5), silence d'une maison isolée, discussions animées au cœur d'un village, etc.

La mobilité, le mouvement, et la façon dont les humains peuvent traverser ou franchir l'espace sont des thèmes privilégiés de la géographie mais aussi du cinéma[62]. Le mouvement de la caméra nous informe sur la méthodologie de travail du géographe-cinéaste, sur son implication physique et sur la façon dont celui-ci franchit l'espace[63]. Dans le cas d'études comme les nôtres qui donnent une place importante à la mobilité et à l'accessibilité des territoires, il est intéressant pour le géographe et sa caméra de suivre des personnes lors de leurs trajets afin de mettre en lumière les conditions de mobilité. Cette méthode d'ethnographie filmée mobile qui facilite une "compréhension plus située de la mobilité corporelle quotidienne[64]" (Spinney 2011, 161), permet de s'intéresser aux voyages du chercheur sur son lieu d'étude et à ses pratiques de mobilité sur place, qui constituent des informations pertinentes à intégrer à sa recherche. Ces vidéos de mobilité peuvent aboutir à un film de type road-movie, défini de cette manière par le dictionnaire Collins : "un genre de film dans lequel les personnages principaux voyagent sur les routes d'un pays avec un véhicule motorisé, en faisant différentes rencontres et vivant des aventures, etc., en chemin[65]" (2018). Le road-movie de recherche illustre donc le trajet, le cheminement du chercheur et ses rencontres, au sens propre comme au figuré. Au Tadjikistan, Suzy Blondin a filmé des voyages partagés, à pied ou dans des véhicules motorisés, dans le but de réaliser des road-movies (ou "road videos") qui donnent notamment à voir les personnes en mouvement, les conditions d'accessibilité de la vallée étudiée et le voyage de recherche (vidéo 6).

[62]Voir Kracauer sur l'importance au cinéma du mouvement, et notamment de la poursuite (2010, 81), du voyage et de la traversée (2010, 114).

[63] Le film de l'anthropologue Julien Glauser "Tokyo through the looking glass" (2012) issu de sa thèse "Revers de Tokyo : images et imaginaires du skateboard : recherche en anthropologie visuelle" (Glauser 2012), constitue un excellent exemple de co-itinérance filmée (en skateboard).

[64] Traduction libre de "a more situated understandings of daily corporeal mobility" (Spinney 2011, 161).

[65] Traduction libre de "a kind of film in which the main characters travel highways of a country by motor vehicle, having various encounters, adventures, etc. along the way" (Collinsdictionary.com)

Vidéo 3 – Limitation des déplacements routiers pour accéder au fond du Queyras en prévision d'un glissement de terrain qui isolerait complètement les derniers villages de la vallée (© A. Barrioz, 2017).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo3.mp4

Vidéo 4 – Le Giffre qui alimente la vallée éponyme (© A. Barrioz, 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo4.mp4

Vidéo 5 – Un affluent de la Tinée, le torrent de Sestrière, qui s'écoule à Saint-Dalmas-le-Selvage, Haute Tinée (© A. Barrioz, 2018). URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo5.mp4

Vidéo 6 – "Sur les routes du Bartang" (© S. Blondin, 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo6.mp4

C’est en faisant l’expérience de ces sensations que la géographe prend conscience de ce que peut signifier corporellement se déplacer dans la vallée étudiée, et c’est en le mettant en images qu’elle espère interpeller physiologiquement le spectateur, que ce soit les pairs scientifiques, les participants à la recherche, des étudiants, ou tout autre public.

En somme, notre découverte du terrain et certaines de nos méthodes de travail nous ont conduits vers la vidéo. Notre démarche audiovisuelle nous a permis de nous concentrer plus précisément sur l’environnement physique qui caractérise nos terrains d’études et notamment sur les mouvements qui font la mobilité en contexte d’isolement. Toutefois, la vidéo trouve sa pertinence au-delà de la description d’éléments physiques. En effet, comme nous allons le voir, elle permet d’examiner et de rendre compte du rapport intime qu’entretiennent les habitants d’un territoire avec leur environnement physique, et qui s’exprime de manière particulièrement forte en contexte isolé de montagne. L’environnement physique est alors considéré comme le médiateur et le support de perceptions et d’émotions qui lient les habitants à leur territoire.

Vidéo 7 – Filmer depuis la remorque d'un vieux semi-remorque soviétique, route du Bartang (© S. Blondin, 2017).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo7.mp4

Vidéo 8 – Filmer les pieds dans l'eau, le long de la route du Bartang inondée (© S. Blondin, 2017).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo8.mp4

5.4.3.6. Filmer la relation des habitants à la montagne

Filmer la relation des habitants avec la montagne est un objectif commun de nos deux travaux doctoraux. Plus que de vouloir simplement illustrer des propos, la vidéo aide à explorer et retranscrire une ambiance et les perceptions d'un lieu que peuvent avoir les personnes qui le fréquentent et le ressentent. Elle "devient un médiateur possible entre science et sensibilité" (Langewiesche, Pourcel et Attané 2008, 12). La vidéo permet de s'attarder sur la dimension palpable du lien entre habitants et territoires, et, par extension, le film géographique permet de transmettre des résultats par le biais de cette ambiance partagée et d'"impliquer physiologiquement" le spectateur (Kracauer 2010, 236). Le film constitue ainsi un outil de choix pour une discipline s'intéressant aux différents sens qui permettent de recevoir les stimuli externes que nous envoie notre environnement. Cette deuxième partie propose tout d'abord une réflexion sur l'utilisation de l'audiovisuel pour appréhender les perceptions que les habitants ont de l'espace montagnard, avant de montrer plus clairement comment les vidéos permettent une exploration sensible de l'attachement intime au territoire. Nous montrerons ensuite que notre cheminement sensible personnel en contexte montagnard isolé a facilité notre compréhension des perceptions et émotions des habitants.

-Donner une place centrale aux perceptions de l'espace montagnard

Filmer la montagne, c'est redonner une place de choix à la perception d'un lieu et donc aux sens qui permettent de l'aborder. La géographie s'est éloignée du déterminisme qui la caractérisait à ses débuts et donne de plus en plus de place à l'invisible, tout en interrogeant les liens entre réalité physique et réalité sociale (culturelle, économique, politique, etc.), et plus globalement entre population et environnement. Dans une perspective phénoménologique[66], nous ne nous intéressons donc pas seulement à la réalité physique et matérielle des choses (la topologie d'un village, l'état d'une route, une inondation) mais à la façon dont ils apparaissent aux personnes qui interagissent avec, et deviennent ainsi phénomènes.

[66] Voir Sanguin (1981).

Vidéo 9 – Jeune garçon buvant de l'eau de source dans le jardin familial, village de Baghu, vallée du Bartang (© S. Blondin, 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo9.mp4

Vidéo 10 – Tour d'horizon de la Haute-Ubaye (© A. Barrioz, 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo10.mp4

Dans le cas de nos recherches, les populations entretiennent des rapports intimes avec la matérialité de leur lieu de vie. La montagne tient une place importante dans leur quotidien, à la fois en tant que paysage (le relief, la végétation, l'eau, etc.) et en tant que cadre physique déterminant l'accessibilité des vallées et donc la vulnérabilité des habitants face aux variations climatiques saisonnières. Lorsque les interviewés mettent en avant leur isolement dans l'espace, c'est en faisant souvent référence à des éléments précis de leur environnement. Filmer ces éléments permet de mieux appréhender les propos de nos interviewés concernant leur attachement à cette "nature", tout en nous y familiarisant en tant que chercheuses. Au Tadjikistan, la majorité des participants à la recherche ont manifesté le lien à leur village notamment à travers l'attachement à l'eau des torrents et des rivières qui hydratent, rafraichissent, irriguent (vidéos 1-2 et 9). Dans les Alpes, ce sont plutôt des références aux montagnes vues et ressenties qui ont été faites (vidéo 10).

Dans les deux contextes de recherche, l'environnement physique est observé, surveillé, parfois craint car c'est lui qui détermine l'accessibilité de la vallée, son ouverture ou sa fermeture. La vidéo permet de rendre compte des pratiques spatiales quotidiennes ou périodiques que les habitants mettent en avant. Par exemple, la neige est un facteur climatique, matériel et palpable qui joue un rôle majeur dans la vie en montagne comme l'attestent ces extraits d'entretiens :

> Il y a peu de gens, pas de commodités pour faciliter les déplacements, le déneigement l'hiver peut être une contrainte.
>
> Par contre la neige sur la route, ça me botte pas terrible. Pour conduire sur la neige, il faut prendre son temps
>
> (Habitants anonymes, Alpes, 2017)

Filmer un trajet pour atteindre un village alors que la route est enneigée et/ou qu'il neige (vidéos 11-12) permet ainsi d'appréhender d'une autre manière les conditions climatiques particulières et la distance-temps allongée dans leur dimension physique.

En nous attardant sur les interactions entre humains et environnement biophysique, l'audiovisuel nous a aidé à appréhender les perceptions qu'ont les habitants de leur environnement quotidien. Mais, en allant plus loin, la vidéo permet aussi d'appréhender les sensations et émotions émanant de l'environnement des habitants dans un espace de montagne "isolé". Elles sont particulièrement importantes dans le cadre d'étude portant sur les choix résidentiels et l'habitabilité dans des contextes fortement isolés et/ou exposés à des risques environnementaux nombreux.

-Approcher et analyser la montagne par le sensible

Se rapprocher d'une géographie sensible en mobilisant l'audiovisuel nous permet une meilleure prise en compte de la dimension multisensorielle de la vie en montagne, et donc de l'attachement au territoire qui conditionne bien souvent le choix du lieu de vie.

Dans le cas des hautes vallées alpines françaises, le rapport intime que les résidents établissent avec la montagne se reflète par une série de termes employés qui attestent de leur volonté de vivre dans un environnement singulier. Ils parlent de "la beauté des paysages", "de la proximité de la nature ", "de la simplicité du lieu", "de l'émotion et du sentiment particulier

de vivre ici". La vidéo 13 (à 6'10) met en avant ce rapport sensible à l'espace : la voix d'un habitant des Alpes qui parle de ce lien particulier qu'il ressent est superposée à un paysage où le soleil se lève doucement sur une montagne enneigée.

Filmer l'environnement physique met également en valeur des paysages sonores. En ce sens, le son de la vidéo permet de compléter l'approche uniquement visuelle sur laquelle s'appuie la géographie. L'image sonorisée appréhende une autre facette de l'espace, celle de l'ambiance sonore dans laquelle vivent les habitants des vallées rencontrés. C'est le cas de cette habitante qui "ne pourrai[t] pas vivre autrement" et qui déclare : "on a la source, l'eau et le chant des oiseaux le matin… ". Ici c'est bien le son de la vidéo qui permet de comprendre pourquoi elle a la volonté de vivre de façon "isolée" (vidéo 14).

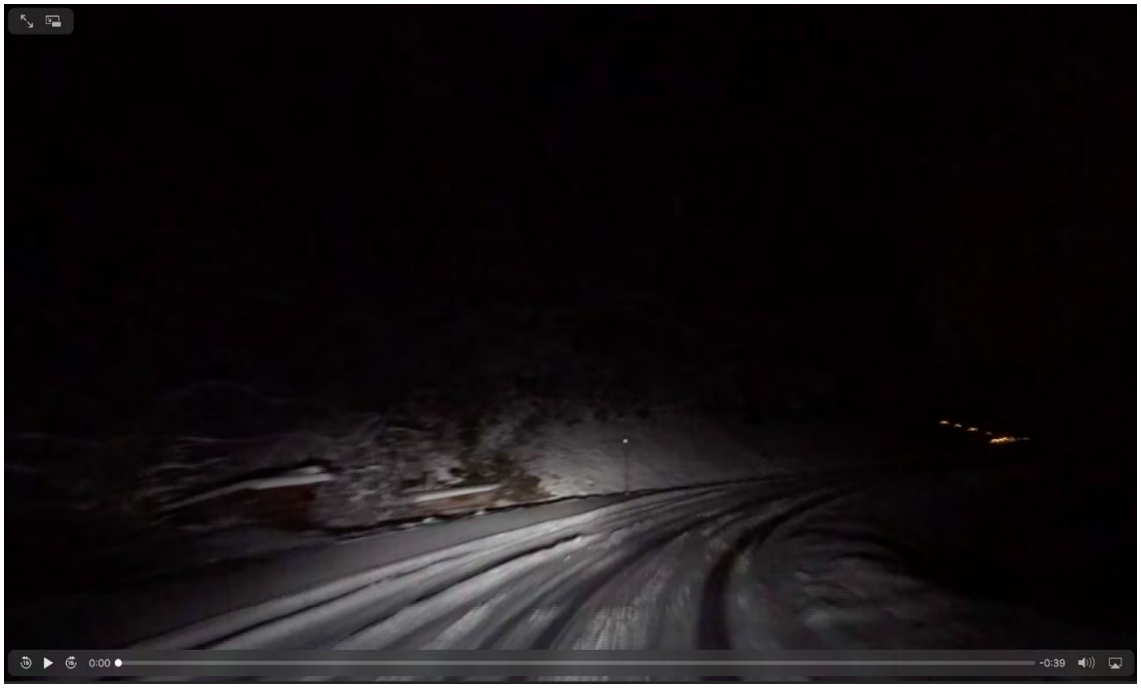
De cette manière, la vidéo permet de donner de la substance aux émotions exprimées par les interviewés qui mettent en avant un attrait pour le vivant. Cette biophilie crée des ressentis, des émotions voire des sentiments plus ou moins intenses à la vision ou à la fréquentation d'un lieu.

Ce sont des perceptions et émotions qui relèvent de la subjectivité des individus qui sont finalement mises en avant grâce à la vidéo. Cette subjectivité de nos interlocuteurs est appréhendée à travers notre propre regard et notre expérience sensible du terrain. Grâce au vécu du géographe en chemin, on donne à voir les conditions de mobilités et les interactions avec la biophysique à hauteur d'humain. La vidéo a donc ce double intérêt : elle permet de transmettre perceptions et sensations de façon physiologique au spectateur et elle encourage le géographe à considérer les aspects sensibles et incarnés du terrain et ce, d'autant plus en contexte d'isolement.

-Explorer la vallée isolée au travers de la vidéo

Les perceptions environnementales et les émotions liées au territoire ont d'abord été étudiées à partir de notre façon personnelle, subjective et sensible de faire l'expérience de l'isolement. Cette approche sensible (du latin sensibilis, sentire, percevoir) donne de l'importance à notre vécu sur le terrain. Elle nous aide à comprendre l'espace par les sens, à contempler les paysages, à palper les mouvements de la végétation, à effleurer des cultures agricoles, à percevoir l'effet de la neige qui mouille, à entendre le tonnerre qui gronde, à saisir l'agitation d'une route et les déplacements des corps qui la déblaient, à suivre une habitante flânant sur les chemins à la recherche du calme et de la lenteur… Le géographe-cinéaste peut alors capter ces sensations et utiliser la vidéo comme facilitateur d'observation, moyen de donner à voir de façon directe, rapide et significative des éléments sans avoir nécessairement recours aux mots.

Alors que la rareté des images sur ces espaces de montagne et l'invisibilité de ces vallées contribuent d'autant plus à renforcer la perception d'enclavement de ces territoires, la vidéo permet d'explorer des terrains de recherche et de les faire sortir, d'une certaine manière, de leur isolement. En s'opposant à l'idée que ces vallées sont uniquement des angles morts isolés de montagne, les chercheuses que nous sommes ont vu dans la vidéo un moyen d'expérimenter le terrain et de faire état de nos pratiques empiriques.

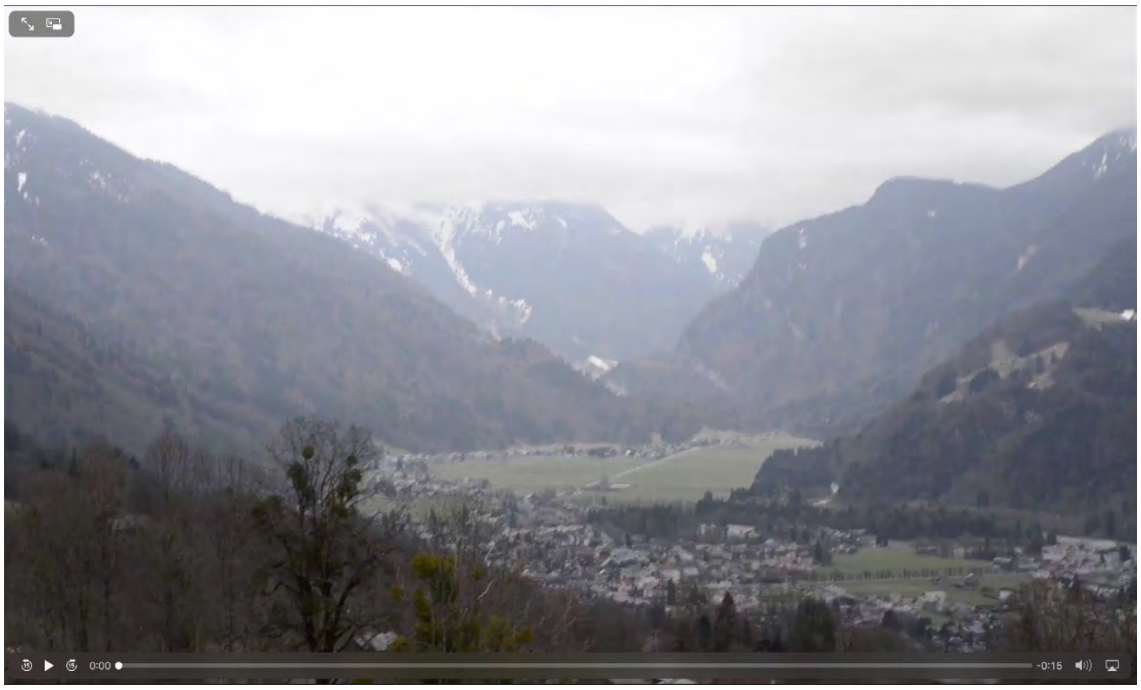


Vidéo 11 – Rejoindre Arêches, petit village du Beaufortain, lors d'une soirée enneigée (© A. Barrioz, 2018).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo11.mp4

Vidéo 12 – Sur la route du Pamir enneigée, entre Khorog et Ishkashim (© S. Blondin, 2015).
URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo12

Vidéo 13 – Extrait du film de thèse présentant les principaux résultats (© A. Barrioz, 2019).
URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo13.mp4



Vidéo 14 – Paysage de la vallée du Haut Giffre où la vidéo fait entendre le chant des oiseaux (© A. Barrioz, 2017).

URL : http://data.msha.fr/rfmv/rfmv03/02/RFMV03BarriozBlondinVideo14.mp4

De plus, à travers la caméra, l'outil vidéo a pu représenter un facilitateur de rencontres et un moyen d'apprivoiser ou parfois de rompre la solitude. Alors que nous étions isolées dans des contextes particuliers, la caméra nous a permis de favoriser les contacts, notamment dans le massif du Pamir où filmer avec un appareil de type réflex est un acte moins fréquent que dans les Alpes. Cela nous a aussi permis de nous focaliser sur notre réflexion personnelle, notre intérieur de recherche et notre capacité à prendre du recul. L'isolement se retrouve dans la pratique du terrain en elle-même, mais pas seulement. De manière générale l'observation filmée nécessite une concentration qui engendre une certaine forme de solitude. Cela permet notamment de se focaliser sur notre réflexion personnelle, de s'effacer un temps, voire de se replier pour laisser venir les pensées et la réflexion. L'isolement réside donc dans l'expérience du terrain en elle-même, mais pas seulement.

En effet, la notion d'isolement revêt une troisième dimension. Se lancer dans la prise de vidéos dans ces espaces relativement isolés, et qui plus est dans la réalisation d'un film en géographie, n'est pas sans difficulté. En cela, que ce soit dans le Pamir ou dans les Alpes, l'utilisation de la vidéo a été envisagée comme une méthode exploratoire, comme un road-movie nous menant sur les routes du terrain au hasard des événements et rencontres.

Ainsi, en situation d'isolement géographique, technique et épistémologique, nous avons trouvé dans la vidéo un outil précieux pour l'exploration de vallées de recherche. La vidéo nous a permis de mieux toucher et sentir ce qui fait la montagne et, par extension, de mieux appréhender le rapport sensible que les habitants entretiennent avec leur environnement

physique : comment ils l'apprécient, l'observent, le touchent, l'écoutent. Cela s'est fait grâce à la mise en avant de différents sens (ouïe notamment) et par l'appréhension d'une dimension immatérielle de l'ordre du ressenti voire de l'affectif. Dans nos travaux, le matériel (une montagne, un cours d'eau, un chemin) est le support et le médiateur de l'immatériel (sentiment d'attachement à un village, à une vallée). La vidéo ouvre donc le champ de l'exploration des terrains, dans une perspective réflexive, subjective et sensible mais aussi de nouvelles méthodes de recherches pertinentes à utiliser en contexte doctoral. Au fur et à mesure que ce parti-pris épistémologique s'est affiné dans notre travail, la place à accorder à l'audiovisuel dans la thèse s'est précisée, comme va le montrer la partie suivante.

5.4.3.7. L'audiovisuel dans une thèse de doctorat en géographie

L'utilisation de l'audiovisuel est une démarche qui demande au préalable d'être légitimée auprès des chercheurs qui nous entourent. En effet, à l'heure où les technologies de l'information et de la communication ont une place grandissante dans nos sociétés, le géographe-cinéaste est encore relativement isolé au sein de sa discipline. L'utilisation de la vidéo demande d'oser la prise de risque méthodologique, tout en étant en accord avec les méthodes de travail de la géographie, ce qui s'avère d'autant plus difficile en contexte doctoral et de premiers pas dans la recherche. Cette troisième partie va aborder la question de la place à accorder à l'audiovisuel dans nos thèses de doctorat, la façon dont la vidéo nous permet de faire de notre recherche doctorale une géographie partagée et finalement nous discuterons des attentes et enjeux relatifs aux films de géographe.

-La place de l'audiovisuel dans la thèse

Dans nos contextes doctoraux, la démarche audiovisuelle s'est construite progressivement. La réflexion méthodologique et heuristique s'est étoffée au fur et à mesure des séjours sur le terrain. Il a tout d'abord été difficile d'assumer le statut de preneur d'images débutant. Et pourtant, nous avons osé, en filmant tout d'abord ce qui s'offrait à nos yeux (paysages, routes, aléas environnementaux…) avant de nous intéresser plus spécifiquement à la relation habitants/environnement (interactions entre habitants et réalité physique).

Les enregistrements audio d'entretiens sont également utilisés comme des voix off pour donner corps à l'image présentée et accentuer la mise en relation des caractéristiques présentées par les habitants (vidéo 13). D'un point de vue matériel, ce travail a été accompagné de multiples interrogations. Le matériel simple et léger que nous avons choisi, bien que limité techniquement, permet de nous adapter aux contextes de recherche qui demandent de filmer seules, en itinérance, et généralement avec des moyens limités. L'audiovisuel s'est petit à petit imposé comme une méthode-clef dans la thèse, au fur et à mesure de l'avancée du travail de terrain, de la découverte de la prise d'images et de sons, du montage, de l'analyse des données, de l'écriture textuelle…

Des exemples récents ont montré que faire des vidéos dans le cadre d'une thèse pouvait correspondre à des méthodes de travail bien différentes. Dans certains cas, la vidéo est mobilisée surtout pour ses aspects heuristiques et dans d'autres à des fins plutôt illustratives ou didactiques. De plus, les vidéos peuvent être au cœur de la démarche heuristique mais ne pas être rendues avec le manuscrit. C'est le cas notamment de la thèse de M. Ernwein dans laquelle

les vidéos ne figurent pas même si la démarche audiovisuelle et son potentiel heuristique sont largement explicités dans le rendu final (2015). La démarche audiovisuelle sur le terrain peut également résulter d'un besoin de collecte, d'archivage et de documentation d'évènements ou de paysages particuliers (De Flore 2015 ; Ronsin 2018). Les images récoltées constituent alors un bloc-notes de terrain pour le doctorant.

Dans nos contextes doctoraux, les résultats ne reposent pas nécessairement sur la réalisation d'un film. Pour A. Barrioz, cette méthode exploratoire a été pensée dès le début de la thèse mais n'a jamais été l'objectif principal de la réflexion. La vidéo étant une méthode de recherche complémentaire, il a fallu prendre le temps d'expliquer la présence de la caméra auprès de tous (chercheurs et habitants), afin de légitimer son utilisation, ce qui a finalement été particulièrement délicat. Face à cette difficulté, l'exploration filmique permet d'avancer dans la réflexion tout en offrant une certaine liberté créative ainsi qu'un cadre d'analyse différent, voire nouveau.

Quand la vidéo accompagne l'écrit dans le rendu final, il ne s'agit pas obligatoirement de réaliser un film de thèse. Comme l'illustre la thèse de C. Buire, le doctorant peut faire le choix d'intégrer des vidéos montées qui constituent des "épisodes" accompagnant des chapitres précis de la thèse. C. Buire justifie ainsi son choix : "le choix de multiplier des vidéos n'excédant pas un quart d'heure répond au refus de limiter le discours filmé à une narration cinématographique fermée par un scénario unique" (Buire 2011, 143). Comme l'explique G. Ronsin, ce peut aussi être au fur et à mesure de la recherche que l'on découvre le statut que la vidéo prendra dans le rendu final de la thèse (Ronsin 2018). Nous nous retrouvons personnellement dans cette démarche exploratoire où nous découvrons petit à petit le rôle que l'audiovisuel joue dans notre travail.

Ainsi, S. Blondin réalise une thèse par articles et ce découpage en articles s'accompagne d'une réflexion audiovisuelle en chapitres (ou épisodes). Le chapitre méthodologique de la thèse reviendra sur la mise en relation de l'audiovisuel et de l'écrit. Un court montage ayant pour thème les mobilités sur son terrain (vidéo 6) a été réalisé, et elle finalise actuellement un montage sur un participant à la recherche dont la famille a été déplacée à cause de catastrophes naturelles, ainsi qu'un autre sur l'attachement des habitants à leur vallée. La réalisation d'un film de thèse regroupant ces différents épisodes est en cours de réflexion. Pour A. Barrioz, la dimension audiovisuelle a pris une place importante dans la pratique de terrain, et notamment dans l'approche "ethnogéographique", via la méthode d'observation participante dans un des terrains (Beaufortain). Dans l'objectif de retranscrire cela d'une façon plus concrète, un court-métrage d'une vingtaine de minutes (Barrioz 2019), synthétise les principaux résultats de la thèse en alliant les images filmées, une présentation cartographique des terrains, la mise en avant visuelle de données statistiques couplées avec la voix off. Il a pour objectif de servir de support de présentation des résultats pour les acteurs rencontrés et les soutiens financiers du travail de recherche. Plusieurs sous-parties du manuscrit de thèse sont consacrées à l'explication de cette démarche audiovisuelle.

La place à accorder à la vidéo dans le travail de recherche peut donc être variée et la démarche audiovisuelle s'avère chronophage sur le terrain comme lors des moments d'écriture et de montage. Articuler écriture filmique et texte demande également d'être précisément pensé

afin de ne pas perdre la pertinence et la coordination des deux. À chaque géographe d'articuler au mieux l'audiovisuel avec ses autres méthodes de travail. Dans le contexte de nos thèses de doctorat, la découverte progressive de l'audiovisuel en parallèle de questions méthodologiques plus larges, d'allers-retours sur le terrain et de la rédaction d'articles et du manuscrit de thèse a stimulé notre réflexion générale d'apprenties-chercheuses et nous a permis de nous positionner plus clairement du côté d'une géographie incarnée, vécue et partagée.

-La "géographie partagée"[67]

Faire sortir ses vidéos et films des murs de l'université, mais aussi impliquer des informateurs, des interviewés et éventuellement des techniciens dans le processus audiovisuel, c'est aller dans le sens d'une géographie partagée. Penser la géographie, tout comme la science en général, en termes de partage, c'est se poser des questions éthiques fondamentales (Collignon 2010).

Au Tadjikistan, S. Blondin sollicite ses informateurs en récoltant des photographies et vidéos prises par leurs soins. Elles constituent des informations précieuses concernant la route et ses états changeants, les conditions de mobilité, l'isolement, etc. Ces images peuvent être des moteurs de discussion et permettent à la chercheuse l'accès à des images qu'elle n'aurait pas pu filmer (à une saison où elle était absente par exemple) ; mais cela rend également concrète l'expérience de géographie partagée en analysant la façon dont les populations elles-mêmes peuvent documenter certains évènements de leur quotidien, et en créant ensemble un objet filmique et géographique. Cela participe par ailleurs à réduire la relation inégalitaire qui peut apparaître entre le chercheur, caméra au poing, et les personnes filmées. Au Tadjikistan, tous les informateurs ne sont pas équipés d'outils numériques mais, même dans un contexte où l'accès à l'électricité reste un enjeu majeur, l'usage grandissant du smartphone a rendu plus commune la prise d'images. Dans les Alpes, la difficulté a davantage été de partager pleinement cette recherche avec des habitants. Malgré une démarche en amont pour expliquer ce travail et l'intérêt de la vidéo, les habitants rencontrés sont restés au statut d'informateurs via un discours oral et non de réalisateurs de vidéos qu'ils utilisent pourtant au quotidien.

D'autre part, rapporter sur le terrain un film plutôt qu'un travail écrit, souvent long et éventuellement dans une langue étrangère, facilite la diffusion des données sur le terrain de recherche car un film est généralement moins excluant qu'un texte. Cet échange permet aux informateurs de mieux comprendre les raisons de la présence du chercheur sur le terrain, mais aussi de bénéficier des résultats de cette recherche. Comme cela a été déjà vécu par S. Blondin, cela permet aussi d'encourager questions et critiques à propos de la méthodologie, de l'éthique de la recherche et du travail en lui-même (Colleyn 2009). Le retour sur le terrain aide donc le chercheur à poser un nouveau regard sur sa recherche et sur son film et participe aussi à renforcer l'intimité de la relation avec les informateurs. Au Tadjikistan, les projections de séquences montées ont souvent été suivies de nouvelles discussions précieuses pour la recherche et qui correspondent à ce que M. Ernwein appelle séances de "vidéo-élicitation collective" (Ernwein 2015), c'est-à-dire où la vidéo stimule la discussion. Dans les Alpes, A.

[67] Clin d'œil à Jean Rouch qui parlait d'"anthropologie partagée" (Colleyn 2009).

Barrioz a prévu de retourner dans chacune des vallées étudiées à la fin de la thèse, afin de présenter le court-métrage de présentation des principaux résultats de la recherche.

Le chercheur et sa caméra peuvent également devenir un moyen précieux de prêter voix à une population dans une logique activiste (voir Pink 2011). Ainsi, si le chercheur et les autres participants à la recherche profitent de la plus-value audiovisuelle, cela permet de créer une relation de recherche plus forte, au cœur d'une géographie appliquée et partagée. Dans le cas des recherches de S. Blondin au Tadjikistan, différents participants à la recherche ont sollicité l'aide de la chercheuse, à travers ses images, avec deux finalités principales : la valorisation des paysages et de la culture locale dans un but touristique et, de façon un peu moins courante, la diffusion d'images illustrant la difficulté des conditions de vie dans un but de sensibilisation politique ou d'appel à l'aide humanitaire. En juillet 2017, elle a filmé des hommes rehaussant une portion de route complètement inondée et impraticable avec seulement quelques outils (vidéo 6). Plusieurs fois, les hommes du chantier l'ont priée de diffuser au maximum ces images afin de faire connaître les conditions de vie de la vallée et la pauvreté des infrastructures. En devenant le porte-voix de différents acteurs dans une logique critique, activiste ou humanitaire, le géographe-cinéaste apprend aussi à poser un regard critique sur les scènes qui s'offrent à ses yeux et sur l'accueil qui lui est réservé dans différents lieux selon les intérêts des personnes filmées (Collignon 2010). Cette transmission de messages entre le terrain de recherche et le pays ou l'institution d'origine du chercheur par le biais de vidéos permet aussi d'aller dans la direction d'une géographie utile et "partagée".

-Enjeux et attentes relatifs aux films de géographes

Au regard de l'ensemble des éléments présentés, un certain nombre d'enjeux relatifs à la production et à la réalisation de films de géographes ressortent, en commençant par interroger le couple montrable/regardable. En effet, comment la dimension esthétique des documentaires et des films de télévision et de cinéma peut-elle être mise de côté pour aller davantage vers des vidéos brutes mais d'intérêt géographique ? Si le spectateur est habitué à voir de belles images au cadrage et au montage professionnels, il nous semble nécessaire dans notre travail de thèse d'anticiper toute critique à ce sujet et d'expliciter la démarche filmique en début de film, de présentation orale ou dans le manuscrit de thèse (ou livre, article de recherche…). Pour reprendre les mots de L. Faugères, le film tel que nous l'entendons ici est davantage un "cinéma de recherche" plutôt qu'une "recherche de cinéma" (1987, 52). De plus, c'est surtout sur le fond que la mobilisation de cette méthode se révèle pertinente. La plus-value de l'image animée se distingue par rapport à un film classique puisque c'est l'ensemble des images filmées, belles et moins agréables à regarder, qui nous intéressent, qu'elles aient été prises sur l'instant ou de façon plus anticipée. Dans nos cas, notre amateurisme technique a pu être ressenti comme un complexe et une difficulté à surmonter. Par exemple, il a souvent été jugé nécessaire de parler du contexte de réalisation des extraits ou des films, juste avant une projection auprès de scientifiques, comme s'il fallait expliquer au préalable le résultat et comme si les vidéos ne pouvaient se suffire à elles-mêmes. Nous nous sentons parfois obligées de justifier que certaines séquences dont le cadre bouge (vidéo 8) où l'image n'est pas nette, peuvent constituer un matériau de choix pour un film de recherche. Les enjeux esthétiques et politiques notamment n'apparaissent plus comme des barrières mais doivent être intégrés à la réflexion sur la

production de l'image scientifique. Ce parti-pris de recherche audiovisuel peut être explicité et revendiqué à l'écrit, ce qui constitue un des intérêts du présent papier. Les éléments audiovisuels qui offrent une plus-value au travail de recherche vont bien au-delà de ce qui pourrait être montrable ou regardable dans un film de cinéma ou de télévision.

Le film de géographe invite donc à une analyse et une interprétation scientifique. Il "plonge le spectateur, par des moyens qui relèvent de l'écriture cinématographique, dans un univers mental qui est celui du géographe" (Faugères 1987, 52). Les critères d'évaluation de ce type de travail ont été réfléchis depuis les débuts de l'utilisation de cette méthode en géographie (Faugères 1987 ; Browaeys 1999). Certains éléments se rapprochent des productions manuscrites classiques puisque la précision des objectifs et de la méthodologie, le contenu du film, la structure, la présentation et l'expression définissent une première base de l'évaluation d'une production audiovisuelle. En géographie, on s'attachera également à la place accordée aux recherches sur le terrain. Mais en se distinguant du rapport écrit, du documentaire et du témoignage, c'est davantage la dimension réflexive qui fonde la pertinence de ce type de travail. Pour X. Browaeys, "l'image oblige à assumer sa part inévitable de subjectivité, ce qui ne veut pas dire abaisser sa 'garde méthodologique' " (1999, 26). Ainsi, l'analyse du contenu par le chercheur et les comparaisons proposées constituent des critères importants. Plus précisément, L. Faugères a proposé des solutions pour évaluer le fond d'un travail filmique. Il explique que les quatre concepts-clés de la géographie de l'époque que sont le paysage, l'espace, la structure, la dynamique et l'historicité pourraient faire office de critères d'évaluation, à condition qu'ils mettent toujours "en relation […] des paysages, des objets et des sujets" (1987, 53). Dans nos cas, nous veillons à relier notre démarche filmique avec la mobilisation de différents concepts liés à la mobilité, à l'isolement et à la marginalité. Par exemple, le montage de S. Blondin (vidéo 6) s'est inspiré du concept de motilité, défini comme le potentiel de mobilité, et de deux dimensions centrales du concept que sont l'accessibilité et les compétences de mobilité. A. Barrioz s'est quant à elle appuyée sur un triptyque mêlant les notions de marginalité, d'attractivité et de pérennité pour construire son court-métrage.

Sur la forme, la Society for Visual Anthropology propose d'évaluer la conception, l'efficacité des œuvres visuelles ainsi que les compétences techniques mobilisées dans le cadre de la réalisation d'un film (2001). Cela nécessite donc intrinsèquement la création de plateformes de publication qui faciliteraient autant la nécessaire, bien que contestée, évaluation par les pairs (Berkeley 2016) que la valorisation du travail de recherche auprès d'un large public.

Dans tout travail de création filmique, se posent également des questions d'éthique et de droit à l'image. Comme pour les photographies, les captations et exploitations de vidéo montrant le visage d'une personne sont soumises à autorisation. La jurisprudence sur la vidéo est encore peu étoffée[68]. Pour la photographie, la justice française distingue la prise d'images dans un lieu privé comme le domicile (accord entre les parties obligatoires) et dans un lieu public où l'image d'une personne peut être utilisée "sans son accord, à condition que cette photo

[68] Il s'agit là d'un des chantiers ouverts par la présente *Revue Française de Méthodes Visuelles* (voir le texte "Edito-Manifeste" reproduit en ouverture des deux premiers numéros de la revue, Bouldoires et Reix 2017).

présente un caractère d'actualité et permette d'illustrer une information" (Stérin 2017, §4). Le respect du droit à l'image demande donc d'anticiper les prises de vue. Les deux parties (chercheur et personne filmée) doivent normalement signer un contrat lorsque le contexte l'exige (lieu privé, visage filmé en gros plan hors des conditions sus-explicitées). Dans les faits, il faut reconnaître que ces obligations nécessitent de mettre en place une démarche administrative précise. La réflexion des géographes à ce sujet doit mener à garantir le respect de ces droits tout en maintenant la spontanéité qui fait l'intérêt de la vidéo.

Dans nos cas, nous nous assurons du consentement des personnes filmées/enregistrées en interview, nous veillons à ne pas instrumentaliser leurs propos et gestes, et à toujours adopter une attitude en accord avec les principes éthiques de notre discipline. Si elles le souhaitent, nous leur proposons également de visionner le montage avant de le diffuser. Cette question du droit à l'image a clairement été une barrière à l'appropriation totale de ce matériau de recherche dans le cas du travail mené par A. Barrioz. Certaines personnes n'ont pas souhaité être enregistrées donc les filmer n'a pas pu être envisagé. Cette méthode étant complémentaire dans son travail qui s'attache d'abord à comprendre les trajectoires de vie d'habitants, la démarche de recherche a d'abord consisté à mettre en confiance les enquêtés. Pour pleinement utiliser cet outil, il faudrait, dans une recherche future, proposer directement la présence de la caméra. L'objectif de réaliser un film portant sur le rapport des habitants à l'isolement pourrait être explicité directement. Cela n'était pas le cas au début de la recherche puisque cette méthode était exploratoire. La reconnaissance, par les pairs et les enquêtés, la présence légitime de la caméra mais aussi de son utilisation à des fins scientifiques, pourrait ainsi être facilitée.

Nous espérons que les travaux récents et en cours sur ces questions encourageront les enseignants e chercheurs à réaliser mais aussi à accompagner et évaluer des films ou vidéos de recherche. Bien entendu, les suites du colloque de Bordeaux et la publication de ce présent numéro vont dans le sens d'une meilleure reconnaissance de l'utilisation de la vidéo en géographie.

5.4.3.8. Conclusion

Utiliser la vidéo en géographie permet de se poser des questions épistémologiques fondamentales sur la nature même de la géographie en tant que science humaine et sociale et en tant que discipline, sur son intérêt et ses destinataires, ainsi que sur les enjeux éthiques de notre travail.

Ce papier a présenté deux exemples concrets et relativement similaires d'une démarche audiovisuelle s'inscrivant dans le contexte de thèses de géographie. Notre approche s'insère dans une perspective phénoménologique et empirique, et dans une démarche de géographie sensible au service de nos intérêts pour les pratiques spatiales des populations et les perceptions qui en découlent. La vidéo facilite ainsi notre étude de mobilités et de trajectoires individuelles et notre analyse de l'attachement au territoire de montagne. En captant des ambiances visuelles et sonores, la vidéo permet également aux chercheuses que nous sommes de coupler scientificité et créativité. Toutefois, intégrer cette méthode de travail nécessite d'approfondir des questions sur l'éthique mais aussi sur la subjectivité du chercheur. L'honnêteté intellectuelle consiste ici à assumer la subjectivité des conditions de production de la connaissance mais aussi à reconnaître que la vidéo est une méthode exploratoire de travail. Les contours de son utilisation,

les formes de restitution ou encore les caractéristiques de son intégration dans un travail manuscrit plus classique diffèrent selon les démarches et de multiples façons d'utiliser cet outil en géographie restent à explorer.

Tout en considérant ces enjeux, il ressort néanmoins que la vidéo, de même que d'autres méthodes dites artistiques (bandes dessinées, peinture, etc.), obligent le chercheur à poser un nouveau regard sur la géographie et sur son terrain. Ces différentes méthodes permettent aussi la diversification de la transmission et de l'enseignement des résultats de recherche à des publics variés. Nous espérons ainsi que cet article permettra d'inciter les étudiants, les enseignants et les chercheurs à se saisir de ces outils visuels et sonores de recherche.

5.4.3.9. Ex-post reflections on the use of audiovisual methods: enlivening and animating fieldwork

Thinking about my audiovisual practice and the writing of this article in hindsight, I feel that some of my audiovisual objectives have not been met. The reflections which accompanied the composition of this article fuelled my ambition to edit more videos and create short films (or episodes of a mini-series) about Bartang. Lack of time and other methodological reflections, especially on mobile methods, somehow lowered my audiovisual ambitions. However, making and editing videos have been of great heuristic value and have significantly encouraged my focus on material aspects of mobilities and sensual and physical aspects of place attachment.

Given the use of multiple methods and media including discourses (interviews), shared journeys, auto-ethnography and audiovisual methods (videos and photographs), this research may be coined a "multimodal ethnography". As Varvantakis and Nolas argue, multimodal ethnography intends to make sense "of various media and modalities" (2019, 366) and remains a way of doing research "still in the making" (idem). The idea is to put different methods, drawing on different media, in relation and to reflect on the way they may complement each other. For instance, as Varvantakis and Nolas note, the analysis of visual materials in multimodal ethnography is usually inspired by the grounded theory and by phenomenological approaches and helps to "[think] about data in a more embodied and sensory manner" (2019, 367). Such way of doing research seems particularly relevant for incorporating senses and emotions into our studies. Multimodal ethnography may help to reflect on bodily practices, sensations, human-infrastructure interactions, and feelings and emotions in their embodied dimensions. In my case, capturing videos and watching them multiple times have elicited a focus on materialities and sensations, first regarding people-place physical and sensuous relationships (as explained in article 2), and also in the context of mobilities along the Bartang Road. For instance, the insecure and unstable movements of the camera during car trips have led me to reflect on the physical and embodied aspects of travelling along a rugged and non-asphalted road.

The use of audiovisual methods has enabled me to engage with "more-than-human, more-than-textual, multisensual worlds" (Vannini 2015b, 318) and to give emphasis to events, practices and atmospheres, which could hardly be studied only through interviews and conversations. As evoked earlier, such posture is in line with non-representational theories (Thrift 2008). By engaging with embodied practices and emotions, my research methodology

has become more mobile, *enlivened* and performative. In sum, as Varvantakis and Nolas explain:

> In the long quest to understand, or make sense as we prefer to say, of our different fields of study, sensory and non-representational concepts such as atmospheres and minor gestures have come to the fore as a way of appreciating and communicating the spaces between and meeting places of affective, social, cultural, and embodied experiences that are both local and global (2019, 367).

Although I have not engaged with concepts such as atmospheres and gestures, the focus in this dissertation on roads, vehicles, practicalities of journeys within the Bartang Valley, individual physical skills in the context of journeys, and the complex relationship between individuals and their dwelling place including emotional attachment, biophysical preferences and spiritual practices and feelings, has been enabled by an embodied, sensory and partly audiovisual approach. Drawing inspiration from non-representational theories, I have given emphasis to the "geography of what happens" (Thrift 2008, 2), or in other words to what people do and how they move, and not only to the way they think about and reflect upon their actions. As Vannini nicely puts it "[non-representational] theory strives to be animated, to be on the move, to be constantly doing something meaningful without necessarily having to resort to spoken commentary, to extended captions, and to research informants' transcribed accounts and illustrating narrations" (Vannini 2015b, 7). As Vannini has showed when discussing non-representational methodologies, there are no right or wrong methods to use in non-representational research, however the non-representational posture relies on a "style" (Vannini 2015b, 12) which steps away from "timidity" (idem) and aims at "animating lifeworlds" (Vannini 2015b, 15) through performativity and creativity. In sum, even though audiovisual films have had a limited role in my research as research outcomes (as final products), videos have played a central role as research media which have been analysed alongside photographs, fieldwork notes and interview notes as a way to *enliven* and animate my research results. In addition, many videos taken during my trips to Bartang are still waiting to be edited in order to tell more stories of Bartangi livelihoods. Developing new short films and disseminating them throughout the field and personal networks would be a way to keep in contact with research participants, develop future research focuses, and continue the research adventure. The use of mobile methods, which will now be introduced, has also greatly relied on the theoretical and methodological approaches I have just presented.

*5.4.4. **ARTICLE 3**: Methods as Moving Ground: Reflections on the 'Doings' of Mobile Methodologies*[69]

[69] This article was published in November 2020 in *Social Inclusion,* Volume 8, Issue 4, as part of the issue "Method as Border: Articulating 'Inclusion/Exclusion' as an Academic Concern in Migration and Border Research in Europe" edited by Kolar Aparna (Radboud University, The Netherlands), Joris Schapendonk (Radboud University, The Netherlands) and Cesar Merlín-Escorza (Radboud University, The Netherlands).
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5.4.4.1. Introduction to the article

The previous article set the stage for the importance of my participant observations of mobilities in the Bartang Valley in order to understand issues of remoteness, mobility potentials, and involuntary immobility in the region. The next article focuses on mobile methods, their practical aspects and assets, and the various challenges they may pose to researchers. This article was written in collaboration with Dr. Ingrid Boas (Environmental Policy Group, Wageningen University), Dr. Joris Schapendonk (Geography, Planning, Environment Department, Institute for Management Research, Radboud University) and Dr. Annemiek Pas (Department of Human Geography, Stockholm University). Ingrid Boas and Joris Schapendonk took the lead in constructing this article with an equal contribution. The idea to work together on this article emerged during the symposium "A Mobilities lens to the human mobility-environmental change nexus" held at Wageningen University in June 2019 and organised by Dr. Boas. This article expresses much about the ways I (and other authors) navigated the field and explored mobilities. The paper developed our four personal cases. My case focuses on the practice of mobile autoethnography. By shedding light on my own embodied mobility experiences, autoethnography has been a fruitful way to approach differentiated motilities among social groups in the Bartang Valley.

5.4.4.2. Abstract and keywords

As mobilities studies became a well-respected field in social science, discussions on mobile research designs followed. Usually, these discussions are part of empirical papers and reveal specific methodological choices of individual researchers, or groups of researchers sharing the same objectives and questions. This article starts with a different approach. It is based on continuous discussions between four researchers who developed their own version of mobility-driven projects, starting from different disciplinary backgrounds and using different research techniques. By sharing and contrasting personal fieldwork experiences, we reflect on the *doings* of mobile methodologies. We engage with the mistakes, dilemmas, and (dis)comforts that emerge from our own mobile research practices, and discuss what this implies for relations of power between the researcher and the research participants, and to what extent mobile research can represent the mobility that we seek to study. Specifically, the article addresses three questions: 1) To what extent do we produce *different* knowledge with our mobile methodologies? 2) How do our smooth writings about methodology relate to the 'messy' realities in the field? 3) How do our practices articulate and transcend difference between researchers and research participants?

on our ideas; the anonymous reviewers for their suggestions to further improve the article; and Cebuan Bliss for editing our article to improve the English language. This research was funded by: Two Veni Grants of the Dutch Research Council (NWO, Grant Number: 451-16-030; 451-14-011); the Fonds des Donations of the University of Neuchâtel; a Marie Skłodowska-Curie Action "Resilience in East African Landscapes" (REAL) Innovative Training Network funded by the European Commission (FP7-PEOPLE-2013-ITN project no. 606879).

Keywords: mobile methodologies; mobility; positionality; reflexivity; representation

5.4.4.3. Introduction

The so-called 'mobilities turn' seeks to establish "a movement-driven social sciences" (Büscher and Urry 2009, 100), critiquing place-based and static understandings of social life and conventional approaches upholding to the confines of the nation-state (Davidson 2020; Urry 2007). This focus on the 'mobile' character of social life, and human mobility in particular, has led to the use of mobile methodologies. Researchers in this field study people or things on the move, including moments of blockage and voluntary or forced periods of immobility, using mobile methods such as 'moving with' people or objects, or digitally tracing these movements (Büscher and Urry 2009; D'Andrea, Ciolfi, and Gray 2011; Elliot, Norum, and Salazar 2017; Schapendonk 2020; Schapendonk et al. 2018; Spinney 2011). Less known, however, is the practicality, and the wider academic implications, of using mobile methodologies (for notable exceptions see D'Andrea, Ciolfi, and Gray 2011; Elliot et al. 2017; Merriman 2014). Therefore, and in line with the main objective of this thematic issue, we reflect on the actual 'doings' and implications of these methodological approaches. More specifically, we relate mobile methodologies with the question of 'academic inclusion' (see Aparna, Schapendonk, and Merlín-Escorza 2020). While the four authors of this article all strongly value mobile research approaches, we came together to discuss our standpoints and insights regarding power and positionality (Faria and Mollett 2016) and the question of representation (Merriman 2014), derived from our own fieldwork experiences. We asked ourselves:

1) To what extent do we produce different knowledge with our mobile methodologies? 2) How do our smooth writings about methodology relate to the 'messy' realities in the field? 3) How do our practices articulate and transcend difference between researchers and research participants?

In this article, these questions are not mechanically answered by the four authors but are implicitly and explicitly discussed through personal notes on the shifts, dilemmas and (dis)comforts of individual fieldwork. The first fieldwork note is on West African transnational mobility within Europe. The second focuses on environment-related mobilities in Bangladesh. The third involves a mobile auto-ethnography regarding domestic mobility in Tajikistan. The final fieldwork note discusses pastoral mobility in northern Kenya. By including our personal reflections on the four fieldwork experiences, we offer a heterogeneous picture of what insights, biases, divides and (dis)comforts are produced by mobile approaches. These reflections are then embraced as a 'critical mirror' to collectively discuss the promises and pitfalls of mobile research approaches. This discussion is not a simple consensus-driven exercise, but actually includes reflections on the positionality of each researcher vis-à-vis the other co-authors. The outcome of this discussion highlights how researchers can change and adjust their applied methods and 'move with' new ideas. This results in an invitation for more reflexivity in mobility research.

5.4.4.4. 'Moving with' as a Research Methodology

Mobile methods (Büscher and Urry 2009) and mobile methodologies (Elliot et al. 2017) are terms that became popularised in the course of the 2000s (e.g., Büscher and Urry 2009;

D'Andrea, Ciolfi, and Gray 2011; Hein, Evans, and Jones 2008). Büscher and Urry (2009) put forward a number of methods to move beyond the conventional, stationary methods of social science. These range from observing movements through participant observation, or audio-visual records of everyday mobility, to physically moving with a migrant, commuter, cyclist, container, or animal (see also Hein, Evans, and Jones 2008). While Büscher and Urry (2009) offer these methods in the context of the mobilities turn, it is important to note that research designs have (of course) not been completely blind to mobility (Benson 2011). For anthropologists, evident points of reference are the widely discussed paper by Marcus (1995)—who advocates following the people, the thing, the metaphor, the plot, biography or conflict—and the work of Clifford (1997) on ethnography as a form of travel. Earlier research has also dealt with mobile people, including anthropological accounts of living and moving with those who live in mobility (e.g., Okely 1983). One notable example is the work of Goldstein and Beall (1987, 2), who travelled with pastoralist groups in Tibet. They explicitly wrote about the practicalities of their mobility:

> The widely scattered nomad campsites required us to move our camp frequently in order to obtain a meaningful sample. We hired yaks from the nomads to move our tent and equipment, but yaks are rather unruly animals and frequently threw off our loads damaging quite a bit of our equipment. It also often took days to arrange to hire these yaks (and horses) since they are normally left alone in the mountains quite far from the nomads' tentsites. For the next phase of the study we plan to buy our own horses and are making arrangements to hire our own caravan of yaks. We also will obviously have to make better carrying cases.

This quote illustrates that the mobility of the researcher is not merely a practical issue, but also—and inherently so—an intervention in 'the field.' The quote reflects the argument of Law and Urry (2004, 391) that methods are tools not only to "describe the world as it is, but also enact it."

The question of enactment—of bringing something into being—is particularly relevant for research approaches that seek to 'move with' people. There are two main concerns that are attached to the notion of enacting mobility. The first concern relates to positionality and representation of 'moving with' approaches. To understand its dynamics, mobility researchers often follow mobilities, or practice it themselves, in order to capture mobility in its full dynamism (see, for example, Spinney 2011; for a critique see Merriman 2014). In migration research, this resulted in so-called 'trajectory approaches' (Schapendonk 2020; van Geel and Mazzucato 2018; Wilson 2018) that produce a methodological shift from investigating migrants' position in a place, towards the "following of migrants through places" (Schapendonk et al. 2018). Central to these 'moving with' approaches are the practices and perspectives of the people on the move. These approaches offer insight into the everyday experiences of movement, or stillness, and from there it examines sites of struggle, marginalisation, duress or empowerment, in relation to other mobilities, networked actors or mobility regimes (Büscher and Urry 2009; Schapendonk et al. 2018). This ambition of 'capturing' the full dynamics of mobility, however, is simultaneously the main pitfall of a 'moving with' methodology. As ethnographic researchers, we often try to relate ourselves to the experiences of people on the

move, to understand choices made and emotions felt. This brings us to the question of positionality.

As highlighted by Khosravi (2018) and Cabot (2016) in relation to refugees and forced migration, the question is: Can we—as privileged people working in academia— really know their experiences? Can we really put oneself in the shoes of the 'Other'? What do we know and what do we enact when researchers engage with less privileged mobility? When it concerns unauthorised movements, this might not only create uneven power relations, but it may even put people at risk. The researcher could enhance the "visibility of the migrant, which in turn increases the risk of being exposed to border patrols or being the target of extortion" (Khosravi 2018). This demonstrates the need for constant reflection on part of the researcher in employing such methods. We cannot experience the world in precisely the same way as the people we study (Khosravi 2018). Here mobility approaches might learn from a longer legacy of the discussion of politics of research relations in migration and refugee studies (Harrell-Bond and Voutira 2007; Malkki 1995; van Liempt and Bilger 2009; see also Aparna 2020).

Secondly, and closely related to the concern of representation, moving with individuals create its own biases. Following mobility might run the risk of either making assumptions for an entire community through a bias towards the one that is being 'followed.' In this regard, some scholars criticise the notion of transient and flexible communities in the context of so-called transit migration (Stock 2019), as studies focusing on transit and onward movement overlook long-term community bonds in migrant groups in presumed transit locations. Other scholars encounter immobility and permanence in a presumed culture of mobility (Gaibazzi 2015). In theory, mobility studies see mobility and immobility as dialectically constitutive (Wiegel, Boas, and Warner 2019), though in practice a 'moving with' approach risks ignoring these immobilities and, more specifically, the gendered notions of mobility/immobility relations (Reeves 2011). In other words, who we follow (and who we do not follow) has implications for doing mobility research and the researcher's understanding of mobility processes.

To sum up, whilst much is written about 'moving with' research designs, and such methods are increasingly being applied in practice, this needs to be accompanied with active reflection by the researcher on the ethics, practicalities and limitations of such an approach. To add evidence to this, we present in the next sections our reflections on four fieldwork experiences using mobile methodologies. We seek to be transparent about our choices and own subjective understandings with regards to practices and experiences of mobilities.

5.4.4.5. 'Doing' Mobile Methodologies: Fieldwork Reflections

-Notes on Trajectory Research on West African Cross-Border Mobility within and beyond Europe (Schapendonk)

There is something inherently odd with the approach of following people—an approach I advocated from the start of my academic work. Some of the oddness is part of fundamental ethnographic puzzles around relatedness, power and knowledge—others are specifically linked to the mobility involved. Below, I relate these issues to my research practices.

The trajectory ethnography that I developed is to a large extent built on the argument that migration studies start from sedentarist conceptualisations that 'exceptionalise' mobility (Schapendonk, Bolay, and Dahinden 2020). A mobility perspective enabled me to move away from the idea of the 'grant departure' of migrants (the presumed all-decisive moment of leaving one's place) and prevented me from falling into the 'happy ends' of place-bound integration and settlement. With this critique came the idea to follow migrants through space and time, in order to better understand mobility processes at the moments they actually unfold. But this 'moving with' approach runs the risk of reproducing the spectacular image of migration. In my PhD thesis, for example, I used the typical image of African migrants climbing the Ceuta fences. Although I related this image to the argument that we should not focus on these moments only, I now regard this image as a critical mirror since it does portray mobility as something problematic, exotic, exciting and political. As if we indeed need to grasp it (Aparna 2020, based on Glissant) in order to normalise it. In my later work on the intra-EU mobility of West Africans, this mundane search for spectacular mobility lasted, although in less explicit ways. I remember my excited voice when one of my interlocutors 'reported' on his most recent irregular border crossing. Why do I (almost automatically) think these are the moments we should write about? Why are these spectacular crossings more important than the everyday commuting of borders that I also came across? A first reply could hint at the politics of mobility. The argument then is: Since these border crossings are unauthorised, they articulate the politics of mobility as they reflect the unequal distribution of mobility rights. But do they really? I mean, some of my interlocutors did not feel excited at all when they crossed borders in Europe without papers. One particular man actually fell asleep during his unauthorised train travels from Italy to Germany in the 'heat' of the so-called migration crisis. To my asking what actually happened *en route*, he simply replied: "Nothing really happened." Equally so, other people were confronted with immobility on their daily pathways to their work. They needed to wait for transport, some hitchhiked, and again others walked long distances to reach these places. These politics of mobility, however, are seen (by me and others) as less significant, often without any further justification.

The latter hints at the issue of relatedness. I consider my research as a product of relations, rather than a phenomenological representation of their mobility (Schapendonk 2020). Yet, there were so many moments whereby any ground for relatedness between me and my interlocutors was difficult to find—situations of anxiety, risk and xenophobic violence. In my recent book (Schapendonk 2020), I discuss and unpack these moments of un-relatedness, as it articulates what our boundaries are in terms of knowledge production.

The actual doings of the trajectory ethnography involved much travelling: I followed, among others, people's trajectories between Germany and the Netherlands, Spain and Italy, Italy and Switzerland, the Netherlands and the Gambia. The revisiting of people in different places is facilitated by the numerous in-between communications and a lot of hanging around with people. These longitudinal engagements are, of course, self-selective. I was dependent on the willingness of the people I worked with to answer my calls and messages. The stiffer social relations, the easier research relations collapsed. To put it differently, I ended up 'following' people on the basis of 'liking' each other (see also Lems 2020). These bonds—some lasting for over a decade now—form fruitful grounds for insightful discussions on borders and mobility.

The actual re-visiting of people in different places is, in general, a helpful way of producing stronger bonds and friendships. Ontologically speaking, these engagements formed a floating topology (Simone 2019), as they not only helped me to construct an alternative worldview regarding mobility in contemporary Europe, but they also served mobility for me and my interlocutors. Through these relations possible travel destinations were discussed and new connections were made (Schapendonk 2020).

The mobility involved comes with substantial personal inconveniences. As a father of two, I had to leave home many times in rather spontaneous ways. Following trajectories is in that sense a method that is difficult to plan beforehand, as it depends so much on the mobility of others. Also in terms of knowledge creation, there are clear downsides. I built only limited knowledge on 'local contexts'—and contextualisation is still seen as the main form of authority in ethnographic writing. At the same time, my travels between different places created something that I highly value, namely a space that unfreezes migrant positionalities in Europe today (Schapendonk 2020, 198). Despite this unfreezing, it is of crucial importance, however, to not overlook people's unchanging situations. My re-visits to the people who did not move within Europe are in that sense equally valuable. Here I think of Shakur—a Gambian young man who got stuck in Italy's asylum procedures. Between 2014 and 2018, I visited him several times in the same asylum shelter. From his position of immobility, he saw most of his friends move across borders, looking for opportunities elsewhere, living postnational lives in Europe. From his static position, he saw the world moving around. We should, therefore, not ignore how place-based research designs (Gielis 2009) add to our understanding of mobilities.

-From 'Moving with' to Tracing Connections: Environmentally-Related Human Mobility in Bangladesh (Boas)

In this fieldwork note, I reflect on my study of rural coastal communities in Bangladesh, which have to move in the context of environmental changes (Boas 2020). Initially the intent was to move along with environmental migrants while conducting semi-structured interviews with them (Boas 2019). This was associated with a particular view on how environmental migration looks like. I anticipated it to be feasible to identify people moving in the context of environmental changes, but this turned out not to be the case.

Especially in the context of gradual environmental changes (such as coastal erosion), the need to move is not always immediate (on slow displacement see Carte et al. 2019). Deciding on the possible need to move could take months, or even years (Boas 2020). As such, it would be very rare to meet someone moving away to a new place—as this consists of a long-term period of deliberation and planning. Also, when people move, it is often individuals or specific families who move, rather than entire groups or villages, as gradual environmental changes do not affect everyone at the same time. The migration dynamics are, as such, rather fragmented, as opposed to taking shape as a clearly identifiable stream.

That I fell into the trap of thinking that there would be easily identifiable 'flows' of environmental migrants, reflects the 'exceptionalisation' of mobility, as discussed in the above note on African (im)mobility. I had put a generalised, often media- and political-driven, label of migration upon this subject of environmentally-related human mobility, assuming a 'grand departure' with collectives of people moving. This does not mean that I was, per se,

underprepared—I had undertaken substantial literature study and had in preparation actively engaged with local partners, who pointed me to areas where people are affected by environmental changes in their mobility. It is rather that environmental mobility is a relatively new area of research, in which both policymakers, NGOs, and researchers (including local ones), are still often driven by assumptions which turn out to be invalid when delving into messy empirical realities.

To account for this different reality, I re-oriented from 'moving with' a person to re-tracing or pre-tracing migration trajectories (including imagined and planned ones), with the use of more traditional place-based interviews. This meant studying how people draw on social network ties to enable their decisions to move, using mobile technologies (Boas 2020). For example, if I met someone planning to move to a certain place, I would travel to meet their contacts in that other place, to better understand their connection and what they imagined the shift to look like. I would use public transport to undertake the journey, to experience how they travelled there. Through face-to-face and digital exchanges with those I met during the research, though not always successful, I tried to verify if they were still accepting of me tracing their trajectory; not just by stating yes or no, but also by sensing whether someone felt uncomfortable talking to me or, more obviously, did not pick up the phone. Just like in the above field notes, I also experienced that friendships emerged out of some of these encounters, especially when tracing someone's trajectory for a long period of time. This also raised questions as to when the research ends or enters a more private domain of trust-based on friendship.

Generally, this shift from 'moving with' to (re/pre-)tracing trajectories, has helped me to better understand what environmental-related mobility entails. For example, one of the trajectories I traced involved a group of mostly women and children living in a heavily affected area of the island of Kutubdia, in the south-east of Bangladesh, in which most of the agricultural fields have been destroyed by incoming seawater (Boas 2020). A number of male farmers from that area have already travelled to the mainland for work. The women who remained have taken the initiative in the search for a safer home. Most want to move to Chakaria— which is a hilly and green area on the mainland, close to Kutubdia island. One of these women is Morsheda. I met her in 2017 when she was trying to secure a house in Chakaria. She and her sister-in-law, Kadiza, who already has a temporary house in Chakaria, called each other daily for small talk, but also to discuss progress on a potential move (Boas 2020). To get a better sense of Chakaria, I visited Kadiza's house, about four hours travel from Morsheda's house using local public transport and a boat. It was a temporary construction looking somewhat like a tent made from plastic, erected on the side of someone else's home. Morsheda and Kadiza were determined to find a more permanent home in Chakaria where they both could live. They would view different pieces of land where they potentially could live. In 2017, it all appeared very uncertain whether this move would transpire. In November 2019, I returned to Kutubdia. Morsheda had news. Together with Kadiza and two other neighbors they bought a piece of land in Chakaria. Kadiza and her family live there on a permanent basis, and the three other families can make use of it when the flooding is severe.

From tracing these connections, and by following up on Morsheda's story over the long-term, a different image of environmental mobility emerged, contrary to expectations. As

opposed to moving away on a permanent basis or long-distance, this case instead finds a more ad-hoc temporary displacement strategy that al lows those involved to collaboratively stay in their places of origin, whilst having an opt-out in times of emergency. This shows how assumptions about mobility are often misplaced, and that an effective mobile methodology requires constant interaction within the context of the research.

-Autoethnography as a Research Method of Local Im/Mobility Uncertainties in Tajikistan (Blondin)

This third fieldwork note focuses on the environment-mobilities nexus at different scales in the mountains of the Viloyati Muxtori Kuhistoni Badakhshon (Autonomous Province of Mountainous Badakhshon), in Tajikistan. The aim was to understand the consequences of avalanches, rockslides and floods for populations living in the villages of the Bartang Valley, located between 2200 and 3100 meters above sea level, which are particularly remote. Journeys to villages of the middle and upper parts of the valley are full of uncertainties given the frequency of environmental hazards, the absence of public transport, the low motorisation rate and, particularly, the bad state of both vehicles and roads. In the absence of any public transport, the Bartangis use private shared cars to go to the city (mostly Khorog, the provincial capital). Drivers work according to a weekly schedule and leave once cars are full. I have used such cars to go to the Bartang Valley and to move around in the Valley. When no car was available, I have also shared long walking trips with local residents. Therefore, my journeys to the field have brought about various challenges such as finding a car, undergoing car repairs on the way, crossing flooded roads by car or on foot, organising spontaneous sleepovers in the event of a breakdown, fighting feelings of anxiety about bad road conditions and staying patient in situations of strandedness.

Although I initially aimed to analyse the effects of environmental variability on permanent migration in the form of relocation, I quickly realised that local residents were more concerned about the effects of climate variability on mobility to the nearest town. When roads are blocked by avalanches, floods or rockslides, residents may face situations of involuntary immobility (Blondin 2020). As such, I reoriented the research towards local-scale mobilities and immobilities. With this new perspective in mind, my own experiences of journeys to/through the field became valuable research insights: what mobility options were available? How to find a seat in a car? How do cars manage the trip over hazardous terrain? How much time do trips take? As D'Andrea, Ciolfi, and Gray (2011, 154) put it:

> As 'getting there' and 'being there' are practical tropes of research feasibility and, in many cases, its own legitimacy, the research journey itself is permanently negotiated along the limitations, expectations and opportunities that end up constituting the actual field of research.

Consequently, I have started to use auto-ethnography as "an excellent way to get at important aspects of human movement" (Vergunst 2011, 203; see also Spinney 2006). By auto-ethnography I refer to the ways in which my own mobilities, or reflections on my motility (mobility potential), became a method in itself to explore the mobilities of others. Auto-ethnography alone may have limited outcomes but since trips were always shared, it was accompanied by co-itinerant encounters and re-flections: How do people move? How do people

behave during trips? For instance, I witnessed how the most physically-vulnerable individuals complained about the effects of poor road conditions or worn-out vehicles on their bodies, and travellers praying before a departure and/or chatting throughout about common acquaintances. My own embodied experiences constituted a valuable first approach to understanding the ways in which people accessed mobility options, the skills needed to be mobile and how mobilities were appropriated by different residents.

Reflecting on my own experiences of mobility has been productive when comparing them with my fellow travellers' perceptions during informal conversations and interviews. This approach provided valuable results in terms of acknowledging the unevenness of our motilities (Blondin 2020). Often, I was more scared by road conditions than my fellow travellers, who insisted that they were "used to the road" and that they were relying on their *barakat* (spiritual protection). After several trips in the region, I could feel that I was getting accustomed to mobility conditions and dangers and a fellow traveller told me: "I can see in your eyes that you are not scared anymore. You have gained some Bartangi *barakat*!" In addition, long walks between villages when no car was available have always been good occasions to compare my (physical) condition with my fellow travellers' and allowed me to understand more accurately the difficulties of such trips: "The continuing relevance of bodily skills in ethnography, even in these globalised and 'systematised' times, reflects the significance such skills still have in everyday life too" (Vergunst 2011, 216). I felt that my motility was weaker than my companions' because I initially had no experience in such context, or because I was not so good at handling involuntary immobility. But there were also issues that made me privileged in terms of motility when, for instance, I could afford to pay for 'the entire' car, which speeded up my departure if I needed to leave a village quickly. Usually, travellers share a car (like a local taxi) that only departs when all seats are taken. Auto-ethnography and co-travelling made me reflect on what shapes motility in my research context and how uneven mobilities emerge. Although the researcher's experiences cannot be confounded with the experience of research participants, a "kinaesthetic and embodied approach" (Spinney 2006)—giving emphasis to the sensuous and real-life experiences of journeys—has a clear heuristic potential by offering a more comprehensive view of the mobilities under study.

-Reimagining Mobile Ethnography in the Case of Pastoralism (Pas)

The final note focuses on the study of the mobility of pastoralists in northern Kenya. My aim was to understand how the mobility of pastoralists is transformed in relation to the (re)shaping of territories and access to and control of resources (Pas Schrijver 2019). Here, recent shifting weather conditions and increased (inter)national investments in nature and wildlife conservation on community land in the pastoralist regions have resulted in mobility becoming more complex (Pas 2018; Pellis, Pas and Duineveld 2018). I studied the case of semi-nomadic Samburu pastoralists at the intersection of three counties: Laikipia, Isiolo and Samburu, within the greater Ewaso Nyiro River Basin.

Here, Samburu pastoralists move with livestock in search of pasture and water. Although based on substantial literature study and initial planning through active engagement with local partners and experts, my choices and assumptions during the preparation stage of my fieldwork—similar to the first two cases of this article— reflected a somewhat presumptuous

understanding of mobility. In the preparation phase, I imagined I could join Samburu pastoralists and their cattle at their grazing sites. Yet, starting fieldwork in 2015, I learnt quickly that most of the Samburu cattle, and their herders, were not at home. It was considered an extremely dry year: The cattle had not been home since September 2014 and were in areas considered remote and dangerous. Contrary to what I had imagined, there was not a clearly identified group of people starting their journey who I could 'follow.'

I soon realised that current livestock mobility in Kenya works differently than I had anticipated. Long-distance mobility occurs in relation to specific points of interest which are unevenly spread around the landscape. There is not a final destination, as each point is a destination on its own, making livestock mobility highly patchy and uneven in space and time. What is more, I learned that mobile engagements were insufficient to understand the dynamics of pastoral systems and the environments in which they exist. It is often only a section of the community who will move with the cattle, rather than entire families. Samburu divide their families between those who stay with camels and small stock (sheep, goats, donkeys), often women, children and elder men; and those who move with cattle to faraway places for long periods of time, which are generally the *morans* (young unmarried man between the age of 15 and 30 years), who will live in temporary cattle camps. It was not a good idea to join the *morans* in faraway and often unsafe places, and besides, Samburu pastoralists are more than only on the move.

Therefore, instead of moving in real-time with the cattle and their herders during long-distance livestock mobility, I remained at certain locations. I adapted my research approach to include interviews focusing on narratives which tried to reconstruct past routes and current pathways of livestock movement. My questions revolved around livestock mobility (not only cattle), access transformations, and how that articulated with the (im)mobility of people. This meant approaching people of different genders and age, discussing how regions were accessible in the past and which processes led to certain forms of exclusion. For example, I talked with Baba Lenketoi from Lekiji, a 74-year-old elder, about his moranhood. During those times, the entire family would continuously move short distances with their livestock. As a *moran*, Baba Lenketoi would only seldom separate from the rest of the family to go with the cattle and other *morans* to temporary cattle camps. These moments were like an adventure, in contrast to the *morans* today, who are mainly spending time in cattle camps far away from home. I also talked with mama Lenkas, who told me that 2015 was the first year she went with her goats to a temporary camp. There was a lack of foraging at home for the goats, therefore the women could not stay close to home either.

Still, the *morans*, who are responsible for moving the cattle to faraway places, remained important to my research. Yet, it was particularly hard to talk with *morans*, who are subject to strict regulations on how to interact in society (Spencer 1973). The cultural conduct of a *moran* entails that they cannot be seen eating or drinking by women, other than a mother of another *moran* while he is also present. Also, although allowed to talk to women, *morans* are not known for being very talkative. I had the luck to be with Daniel the research assistant from Samburu who was a *moran* himself. Daniel was key to my access to other *morans*, and enabled conversations with them. Still, to get *morans* to talk, I had to prove that I was physically capable

of walking. I joined for short-distance daily walks and they became more talkative over time. In addition, although *morans* were not supposed to consume food and beverages in front of me, there were moments when (not upon my request) elders negotiated and I, as a white, European, female scholar, was invited to be present at a meal. Slowly my presence was accepted, and *morans* were joking, considering me a *moran* so they could enjoy their tea in my presence. This shows how my whiteness, education and privilege facilitated access to groups and, therefore, my research in multiple ways (see Discussion section for further reflection on the role of privilege and this gender negotiation process).

All in all, this experience demonstrates that what and/or who you follow has implications for what and/or who you do not follow. My intent to 'follow the cow' would have primarily given me insights from the perspective of *morans* and their cattle, whereas livestock mobility in the Samburu context is more complex. It is interrelated to other people and aspects, such as the increasing importance of women moving with goats, and related dynamics, which my original approach would have overlooked. Situating myself in certain, static, locations not only provided me with different images of the daily realities of livestock mobility, it also indicated important ongoing shifts in the mobility patterns of the Samburu.

5.4.4.6. Discussion

The above fieldwork notes offer an account of the actual 'doings' of mobile methodologies, and how they relate to the questions of academic inclusion and representation. It is important to stress that—although we share an itinerant research approach—all four scholars have different backgrounds and positions in academia. While writing this article, we also noticed that we held different standpoints regarding how we value mobility and how we see the role of the researcher in studying these processes (see Table 3). Here we highlight some of our main threads of reflection, that point to some of the synergies and frictions between the different positionalities.

On a practical level, our four cases show how the 'ultimate' mobile methods—that aim to capture mobility when it unfolds—are rather difficult to achieve or, more likely, do not exist. We touched upon different cultural expectations about who can move and we discussed how mobilities may actually entail long periods of immobility. This also underscored how mobility and immobility are closely interlinked (Wiegel, Boas, and Warner 2019), leading some of us to adapt our methodologies to do more research in place. The mobile approach may turn out to be more local than expected; more stable than expected; slower or more fragmented than expected, etcetera, requiring a constant need to adapt to these dynamics.

This need to adjust to mobilities' pace and direction makes us aware of the often-biased initial assumptions guiding research. All cases in this article illustrate how we expected to examine an exceptional form of mobility: such as the seemingly spectacular mobility of irregular border crossing, which later turned out to be mundane or even boring to those involved, or the expectation of grand departures, long-distance and forced migration, whilst for the people involved the simplest movement from home to town is most crucial and most affected. A mobility approach, then, first and foremost means a legitimation to move away from pre-set research designs, and an invitation to invent new research questions 'along the way' and align your 'doings' with the dynamics you encounter and the restrictions you face. Mobile methods

form, in this sense, a moving ground. In doing so, it is crucial to be closely connected to local partners, to ensure the research is well grounded and adjusted to local contexts. Nonetheless, as noted in the second and fourth field case, this is no guarantee for a better planned methodology. Local researchers and organisations may also come from societal positions other than the research participants, and may therefore also misinterpret local meanings, especially in the context of not much researched topics. Also, independent of the preparations made, when embedding oneself in the research, new insights emerge along the way, which may require the research to shift course.

On an epistemic level, 'moving with' approaches entail a focus on embodied practices, sensations and the material aspects of mobilities. This gears attention towards the everyday, mundane, ordinary, superfluous and pre-cognitive aspects of mobilities (Adey 2017; Davidson 2020). Even when examining the 'exceptional' side of mobilities, our focus on the everyday doings made us shift to its mundane aspects. However, as discussed by Merriman (2014), mobile methods implicitly risk turning research projects into 'representational' projects. This becomes particularly uncomfortable in our cases, since we—despite our reflexivity and local preparations—still started from our default Western gaze with which we studied non-Western mobilities. A way forward could be the autoethnography, as described in the third fieldwork note, by which the researcher can use their own experiences of mobility and immobility and mirror it with the mobility of others (Cook and Edensor 2017; Spinney 2006). In this way, observing fellow travellers or interviewing research participants about mobilities also practiced by the researcher may allow for interesting analytical comparisons. At the same time, as the first case articulates, we might encounter a fundamental lack of relatedness to do this. This raises the plea for a more modest ethnographic approach, in the sense that it should not necessarily be the main goal to 'capture' other people's experiences of moving (Cabot 2016), as mobility research is often aiming for. This would be in line with Merriman's (2014, 176) argument that mobility is, in its essence, rather non-representational:

> My experience of driving or passengering along a particular stretch of road is unlikely to be fully aligned with someone else's experiences, whether they are travelling along with me, or not. Physical proximity and co-presence present an illusion of 'first-handedness,' closeness, accuracy and authenticity.

Moreover, by actively seeking to research another's mobility, we actually shape that mobility and trigger specific social transformations. We enact mobility (Law and Urry 2004). By researching people's im/mobility, we get to know these people, engage with them. This may influence mobility choices, practices and effects. This is not necessarily a bad thing, but it does indicate how mobilities are intertwined. What does this intertwining mean for the research and, more importantly, for the people we work with and write about? In the first case, the researcher saw the study of mobility as a product of the relations *he* built, but, in the end, it is still *him* writing about mobilities, showing the limitations of dealing with the intertwined character of mobilities. In the fourth case, the researcher felt well-embedded in the local community under research, while being approached differently by those studied as someone coming from the 'Global North.' During her activities, gender roles were renegotiated on the initiative of the pastoralist elders, which led to different social arrangements (e.g., being invited to eat with the young warriors), thereby allowing the researcher to build productive research relations with

morans. Discussions with informants may even lead to new frames of mobility that may not necessarily be in line with their feelings and experiences. One telling example comes from the first project, where one the authors accompanied a Gambian man to the Duomo square in Milan. When he started to take pictures of the Duomo square, the researcher semi-jokingly referred to his tourist-like behaviour. For this informant, tourism was an entirely new framework with which to perceive his mobility in Europe.

Still, with this above notion of enacting, the question of consent becomes more complicated. How should we deal with informed consent when situations are on the move? As one of our anonymous reviewers posed: "Can refugees or undocumented migrants provide truly informed consent to participating in research, given the precariousness of their situations?" (see discussions in Harrell-Bond and Voutira 2007). Considering these challenges and sensitivities, it is, in our view, vital to remain reflective of the 'doings' of research, also in relation to research participants, to make clear that the research itself is a process open to mistakes, change and contestation.

"There is some 'eagerness' in Northern research agendas that I find problematic. Why do we need to break with social codes? Why not respect these codes and change our research ambitions?"
"Would declining invitations by local communities that could 'break the social code" not be 'breaking a code' as well? Aren't social codes always subject to change?"
"It might be that female researchers face more barriers in doing research of others' mobility if we should refrain from too much 'interference' with these 'social codes.' Since in at least most of our cases, much of the mobility mainly included males, with the women more in place."
"Although mobility capitals will never be equal, sharing a sometimes long or difficult journey is a way to form a group, to share experience and memories and may be a way to be more included in this community/group/population. But maybe I am too idealistic here?"
"The embodied and physical aspects of mobilities felt or undergone together, may also be a way to put power inequalities aside. Financial capital or a certain passport can't 'buy' or erase some of the physical challenges of certain trips, for instance."

Table 3. Quotes of the authors mirroring our different positionalities in the discussion

5.4.4.7. Conclusion

As mobilities studies became a well-respected field in social science, discussions on mobile research designs and mobile methods followed. Usually, these discussions were part of empirical papers and reveal specific methodological choices of individual researchers, or groups of researchers sharing the same objectives and questions. This article took a different approach. It is based on continuous discussions between four researchers who developed their own versions of mobility-driven projects, starting from different disciplinary backgrounds, having different research objectives, and having applied different techniques in the field. Although the writing process of this article was not always easy, the discussions were fruitful as they touched upon some of our implicit knowledge and biases.

In concluding, we would like to re-visit the questions we raised in the introduction. Firstly, in terms of whether we produce different knowledge, the four authors tend to agree (albeit for different reasons) that their mobile methodologies have great heuristic potential and provide different knowledge to place-bound and/or interview-based research designs. The methods used allowed the researchers (albeit to different degrees) to practice mobility and to reveal mobility-immobility relations that otherwise would remain hidden. All four projects went beyond ex-post reconstructions of people's movements, creating more space for, among others, ambivalence to, and redirections of, mobility. The second question on how messy realities relate to our methodologies critiques the notion that good research designs are pre-planned, fixed and inflexible. Research processes might themselves have an itinerant character (Aparna 2020) and serendipity might indeed be much more valued in research approaches (e.g., Rivoal and Salazar 2013). Mobile methodologies allow for some space of openness, as researchers often do not know where they will end up, in both geographical and analytical terms. The final question relates to mobility as an unequally distributed resource. Our research relations articulated this difference, rather than providing a solution to it. Moving together may imply more intimacy and may deepen research relationships, which can help to create more transparency and reflection in the realm of research, including with the informants of the research themselves. At the same time, our relations with research participants remain unequal in terms of mobility potentials, and we may therefore not be able to fully represent their experiences.

In the end, we regard this article as an invitation to other researchers of mobility to contrast her/his own 'doings' with those of others. As in our case, that might entail showing mistakes or fallacies of the research, but at the same time allows research to remain self-reflective. This is not only valuable in terms of the transparency of specific methodologies, but it can also be a critical mirror for each person involved in this discussion and a way forward to address the politics of mobility. In the metaphorical sense—and we stick to mobility related terminology here—standing still in a process of movement can be very productive. This implies that we should not always go with the flow of the everyday, of larger PhD trajectories, or post-doc careers. We might stand still and ask ourselves what we are doing in the first place, and for whom.

5.4.4.8. Post-publication reflections on Article 3

The process of writing this article—and the numerous conversations it elicited—has greatly influenced my methodological reflection by leading me to reflect on specific and practical aspects of fieldwork and above all on the necessity to recognise and write about the messiness of the fieldwork experience. Article 3 also helped me to consider mobile methods (including auto-ethnography) as central research methods in my work. Acknowledging the messiness of fieldwork and the complementarity of the methods used has also shaped the way I have dealt with and analysed data.

5. 5. DATA ANALYSIS

5.5.1. Analysis starts from the outset

Inspired by grounded theory within the social sciences which I described earlier, data analysis started from the outset of my research. It continued throughout the research stages until the writing process, while I was making sense of or attempting to interpret the data. During preliminary observations, discoveries, conversations, and interviews in the field, issues to be studied and sometimes ideas, notions, concepts, and arguments emerged. As Schutt notes: "The analysis of qualitative research notes begins in the field, at the time of observation, interviewing, or both, as the researcher identifies problems and concepts that appear likely to help in understanding the situation" (2012, 325). Such trends or preliminary threads of analysis led me to examine certain aspects of livelihoods, which helped to address research questions. Initial intuitive thoughts were often critically discussed with research assistants or friends and acquaintances who were part of the group under study. This constituted a first-hand data analysis during fieldwork that led to new observations and interviews. For instance, video-making constituted a path towards a thorough observation of practices and materialities during which theoretical directions also developed. Documenting experiences and interactions in the field simply by taking notes was highly heuristic (see Schutt 2012, 326) since these elicited first concepts and shed light on more salient issues to be delved into later. Editing videos was also a fruitful way to consider and rethink my material and "data" and to make sense of what I observed and experienced. During the editing process, as during the writing of articles, the data analysis was still underway to the extent that we were still interpreting our data.

5.5.2. From data to concepts

While initial notions and concepts may have emerged since data collection, the reading, re-reading, and coding of notes and transcriptions and the watching and re-watching of videos led to a more thorough analysis and to the construction of the arguments defended in the empirical articles. Fieldwork, interview notes, and interview transcripts were compiled in Excel sheets in order to construct a general overview of the conversations. From general trends emerging from the field, I outlined the initial structure of my articles. Later, I clarified this structure and supported my arguments through analytical theories and concepts before returning to the data with new ideas on how to "sort" them. Field notes, interviews, and videos were then re-read and re-watched in light of these hypotheses and categorised (or coded) into units of meaning expressing one main idea (Schutt 2012). Salient examples, meaningful quotations, or suggestive anecdotes which helped to build my arguments were selected. In this endeavour, the interpretation of textual data is an arduous dance with meaning:

> Miller and Crabtree (1999) identify three different modes of reading the text within the dance of qualitative data analysis: 1. When the researcher reads the text literally, she is focused on its literal content and form, so the text "leads" the dance. 2. When the researcher reads the text reflexively, she focuses on how her own orientation shapes her interpretations and focus. Now, the researcher leads the dance. 3. When the researcher reads the text interpretively, she tries to construct her own interpretation of what the text means (Schutt 2012, 324).

While reading interviews and fieldwork notes—and depending on the level of theorisation shaping one argument—I alternatively led the dance, let the notes lead the dance, or attempted to engage in a more egalitarian dance. In my research, initial data led me to different analytical

concepts, themselves fuelling new data collections and leading to new theoretical explorations and to the next fieldwork. Among the empirical articles present in this dissertation, some have a much more conceptual grounding than others. For instance, Article 5 (see Section 7.2) was strongly influenced by the concept of motility, based on which I analysed data on roads, materialities, and practical aspects of (im)mobilities. These data were coded according to the three central dimensions of motility: general conditions of accessibility, mobility skills, and appropriation of (im)mobility. In the case of Article 4 (see Section 6.2), data on people-place relationships were analysed through the lens of the concept of *place attachment* and coded through categories such as place identity, place dependence, social bonding, and biophysical bonding. Once the theoretical framework and central arguments for the articles were solidified, the writing process was accompanied by readings and re-readings of the data in order to choose the most relevant elements and citations to be included in the articles. This is why I consider the ways we make sense of and analyse data as long processes that occur throughout all work stages, from observing to writing.

5. 6. CONCLUSION

My doctoral research is an ethnography conducted over four years which relies on various qualitative methods to address issues emerging from initial observations and experiences on the ground. Dozens of residents of Bartang participated in the research, bringing their subjectivities to my work. During the entire research process, I attempted to build healthy and sustainable work relationships within a mutually beneficial research project. This qualitative case-study brings forward elements of answers and threads of analysis on the research topics, but my findings are highly context-specific and are not an attempt at generalisation. However, within Bartang, the homogeneity of livelihoods, cultural behaviours, and tight-knit village communities result in some general tendencies in ways to envision (im)mobilities and relations on the scale of the Valley. These trends are explored in the context of current academic discussions and novel concepts within environmental mobilities studies. Thus, this case study on the Bartang Valley gives a detailed picture of (im)mobilities in the region while attempting to fuel cross-disciplinary theoretical debates relevant in the context of other mountainous regions or, more broadly, for studying other physically marginalised communities. The next section gets to the heart of the analysis with the introduction of the first empirical article on the topic of place attachment and voluntary immobility in the Bartang Valley.

6. PLACE ATTACHMENT AND VOLUNTARY IMMOBILITY

6. 1. INTRODUCTION

In the first empirical article of this dissertation, I explore the notion of voluntary immobility, the way the Bartangis value their living environment, and how they value mobility and immobility accordingly. Looking at people's perceptions of the place where they live, or their village, allows us to comprehend why some individuals, households, and communities may choose not to migrate—or to migrate only temporarily—despite disaster risks and socioeconomic vulnerabilities. This exploration necessitates delving into social, cultural, and spiritual aspects of residents' lives in order to understand how they are connected to place. This research focus was inspired by recent studies within the field of environmental mobilities which advocate for the incorporation of general migration theories in climate-induced migration research including the importance of people-place relationships in (im)mobility decisions. For this purpose, I mobilised concepts of human geography and specifically the concept of place attachment which addresses the many aspects that shape the bonds between individuals and a place. The following article gives ethnographic details on Bartangi lives including environmental connectedness, risk perceptions, spirituality, and place-based community support.

All Bartangis don't simply either aspire to stay or remain immobile. However, this research work assesses how mobility and immobility are interconnected in the Bartang Valley, and therefore how remoteness and connectivity are intertwined. Bartangi livelihoods are highly dependent on mobilities. A significant part of the Bartangis migrate abroad or to Dushanbe, sending remittances back to their relatives in the Valley. Others work intermittently in Khorog, the provincial capital, or travel there regularly to acquire basic products and services or to visit relatives, for instance. However, most mobilities from Bartang are temporary or circular, meaning that strong bonds with *watan* [homeland] are maintained. Vulnerabilities caused by remoteness, disaster risks, or economic poverty do not prevent individuals from remaining. Strong links with their homeland may counterbalance difficulties, and fundamental life values may even depend on remaining in this particular place. On this basis, this article advocates for a more holistic vision of people-place relationships and an exploration of (im)mobility aspirations if we aim to assess the role of environmental conditions in (im)mobilities. These people-place relationships, which play a central role in mobility decision-making, are also forefront in the way individuals and communities may engage (or not) in adapting to environmental variability and climate change, which make these research themes and theoretical reflections insightful for the fast-growing research field on climate change adaptation.

6. 2. ARTICLE 4: STAYING DESPITE DISASTER RISKS: PLACE ATTACHMENT, VOLUNTARY IMMOBILITY AND ADAPTATION IN TAJIKISTAN'S PAMIR MOUNTAINS[70]

6.2.1. Abstract and keywords

Individuals threatened by environmental risks may choose migration as a survival or adaptation strategy. However, various factors such as attachment to place may encourage immobility despite disaster risks. Since the collapse of the USSR, residents of Tajikistan's Pamir Mountains have faced significant political and socioeconomic difficulties and been exposed to environmental hazards such as floods, rockslides, landslides, and avalanches. These hazards put human security, infrastructure, food security, and accessibility to mountainous areas at risk and call into question aspirations to remain. Drawing on ethnographic fieldwork in the Bartang Valley, this article addresses immobility in a context of changes and risks. The concept of place attachment is used to explore people-place relationships, voluntary immobility and in-situ adaptation. Results show that place attachment is shaped by cultural, socioeconomic, ecological, and historical variables and that the relationship between place attachment and mobility is complex. The strong place attachment of the Bartangis influences immobility aspirations, short-distance displacements, and return after international out-migration. Findings suggest a mutually reinforcing relation between place attachment, immobility aspirations, and adaptive capacity to disasters, which points to a need for more attention to voluntary immobility and people-place relationships within environmental mobilities research.

Keywords: place attachment; voluntary immobility; adaptive capacity; Pamirs; Tajikistan.

6.2.2. Introduction

Different fields within migration studies have a long history of theorising about which factors push humans to migrate. A growing body of literature now focuses on environmental migration, or migration trends in which environmental degradation works as an important push factor (McLeman and Gemenne 2018) but surprisingly, research on why people choose to stay in areas at environmental risk is scarce. Recent studies show that even when exposed to severe environmental hazards, some populations decide not to migrate (Adams 2016; Farbotko and McMichael 2019; McMichael and Katonivualiku 2020), but voluntary immobility remains largely understudied within the environmental mobilities body of literature (Zickgraf 2018). However, recent theoretical works encourage researchers to examine the complexity of environmental mobilities and immobilities (Wiegel et al., 2019; Boas et al., 2019). This article focuses on the nexus between people-place relationships, adaptive capacity and immobility in the Pamir Mountains of Tajikistan, where the population is exposed to *disaster risks*, understood as "the likelihood over a specified time period of severe alterations in the normal

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functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions […]" (IPCC 2012, 558).

Immobility can be explained by different economic, social, cultural, and psychological factors. Studies have shown how cultural, emotional, spiritual, and social bonds shape place attachment (Manzo and Devine-Wright 2014) and how individuals may perceive and accept risks in differentiated ways, which helps to explain why some populations resist moving despite apparent risks[71]. This article builds theoretically on the concept of place attachment, understudied in environmental migration literature (Adams 2016) to explore how a close relationship with the place of residence may keep individuals voluntarily immobile. By doing so, this article takes seriously the call by Piguet (2013) to reconnect environmental hazard research and mainstream migration theories and to make links between environmental migration studies and political and cultural ecologies. My intention here is to understand why people do not necessarily migrate due to intimate bonds with place (Upadhyay and Mohan 2017 also promote similar research directions). I also follow Dandy et al. (2019) whose article encourages to explicitly include place attachment in studying the effects of environmental change on human migration and to test it empirically (see also Zickgraf 2018). As Hoffmann et al. (2020) explain regarding the field of environmental migration studies:

> A stronger focus on agency would help identify cultural and psychosocial factors underlying migration decisions beyond the macro-level variables […] Migration is only one of many potential responses to environmental stress and has to be analysed against the background of other adaptation strategies, which can complement or substitute migration (910).

Even when faced with disaster risk or other difficulties, individuals may choose to stay, hence the need to be cautious "when labelling populations as trapped and promoting relocation" (Adams 2016, 429) because individuals may aspire to stay in a place. Taking these conclusions into account, this research draws on different disciplinary fields—from environmental migration studies to mobilities and environmental psychology—in order to examine voluntary immobility.

This article focuses empirically on the Viloyati Muxtori Kuhistoni Badakhshon (literally 'Autonomous Mountainous Province of Badakhshan', thereafter VMKB) in Tajikistan, where residents are exposed to environmental hazards (see Article 1, Section 4. 2.) and suffer from socioeconomic issues such as food insecurity, energy insecurity, and a lack of resources and employment (Bliss 2006). The roads connecting the valleys of the region are not well maintained and are often closed due to environmental hazards, so inhabitants suffer from a lack of *motility* (mobility potential) in this context (see article 5, Section 7.2). Despite these difficulties, many residents either do not aspire to leave or practice only circular or temporary mobilities (Rubinov 2016), which allow them to adapt to difficulties while maintaining strong bonds with the place of residence or origin.

The questions that guided me in this research were twofold: What factors keep the Bartangis in place despite significant risks? How do people-place relationships and adaptation

[71] While we use the notion of "risk" throughout this work, we also acknowledge its relativity.

intersect? The underlying assumption was that a significant place attachment keeps people in place despite the risks. The article shows that place attachment is multifaceted in the Bartang Valley and its multiple dimensions play a central role in aspirations for immobility and circular mobilities. Results also demonstrate the potential of place attachment to bolster adaptive capacity in the Bartang Valley, which further reinforces immobility aspirations. This supports the idea of a mutually reinforcing relationship between place attachment, immobility aspirations, and adaptive capacity.

The first part of the paper presents a brief overview of the literature addressing the relation between voluntary immobility and place attachment. The second part introduces the Pamirs of Tajikistan with an emphasis on environmental and socioeconomic risks. The third part explains the research methods. The fourth part presents the results: After examining the multiple facets of place attachment in the Pamirs, I will show how it can foster aspirations for immobility and circular mobilities and increase adaptive capacity. The final parts provide a conclusion, policy implications of the findings, and research perspectives.

6.2.3. Voluntary immobility through the lens of place attachment: A theoretical framework

Voluntary immobility has been largely understudied in the context of disaster risks. However, if we aim to understand how people interact with their environment and shape or adjust mobility patterns according to environmental changes, voluntary immobility should be considered. The concept of place attachment constitutes an operational tool to explore voluntary immobility and other forms of mobilities which allow populations to maintain a close relationship with place. The first subsection shows the relevance of examining voluntary immobility within environmental mobilities studies and the second explores the relationship between place attachment and (im)mobility.

6.2.3.1. Voluntary immobility: An important research agenda

The literature on voluntary immobility (or the aspiration not to migrate) has not received much scholarly attention, as Zickgraf's overview on "environmental immobility" (2018) and the Climig database on environmental migration shows[72]. As Zickgraf notes, involuntarily immobile *trapped populations* have received more attention because they are considered particularly vulnerable. However, the voluntarily immobile may also be vulnerable if they are not fully aware of the risks or sufficiently informed about mobility options (Zickgraf 2018) and they also need to be informed and protected through adaptation initiatives.

Nevertheless, examining voluntary immobility requires an engagement with the voluntary-involuntary dichotomy. This research draws on Ottonelli and Torresi's study on the notion of voluntariness in migration studies, which considers immobility as voluntary when it is not coerced, when the option of mobility exists, and when potential migrants are sufficiently informed regarding their (im)mobility options (Ottonelli and Torresi 2013). Understanding the

[72] Research on the prevalence of the term "immobility" in the Climig database (occurring in the titles, keywords, or abstracts of articles) yields 12 results, only 5 of which correspond to case studies focused on voluntary immobility in the context of environmental risks. See https://climig.com/.

nature of immobility through research on migrants' capabilities and aspirations (see De Haas 2014) necessitates more thorough conceptualisations of mobilities within environmental mobilities studies, as recommended by Wiegel et al. (2019) and Boas et al. (2019). This would allow a better understanding of the ways different forms of mobility and immobility may be interdependent and complementary.

Literature on immobility insists on the complementarity of mobility and immobility, which should be studied in parallel. De Haas (2014) considers "moving and staying as complementary manifestations of the same migratory agency" and explains that "a truly agentic view on migration should therefore capture both non-migratory and migratory behaviours" (De Haas 2014, 25; see also Adey 2006). Households often engage simultaneously in migratory and non-migratory behaviours. For instance, a household member may be mobile in order to keep the household immobile—"to leave in order to stay" (De Haas 2014, 28)—or an individual may be temporarily mobile as a strategy to stay immobile in the long run, or circulate but stay "rooted" in certain places. When addressing immobility, it is therefore crucial to specify on which spatial and temporal frames our research is situated because people are not purely immobile, or not all the time. Schewel explains that "the spatial frame designates the boundaries within which an individual may be deemed 'immobile'" (2019, 17). For environmental mobilities studies, adopting a dynamic mobilities perspective is crucial because it allows researchers to "encompass the multiple forms, directions and multiplicities of human movement in the context of climate change" (Boas et al. 2019, 902). The concept of *place attachment* helps integrate this complexity by examining how people-place relationships may shape different (im)mobility patterns.

6.2.3.2. Place attachment, (im)mobilities, and adaptive capacity

The *place attachment* that may develop towards a place of origin or residence sheds light on why populations or individuals might not migrate even when faced with significant environmental or socioeconomic risks. Thus, the concept plays a central role in the present research as a way to apprehend (im)mobility aspirations

.-The concept of place attachment

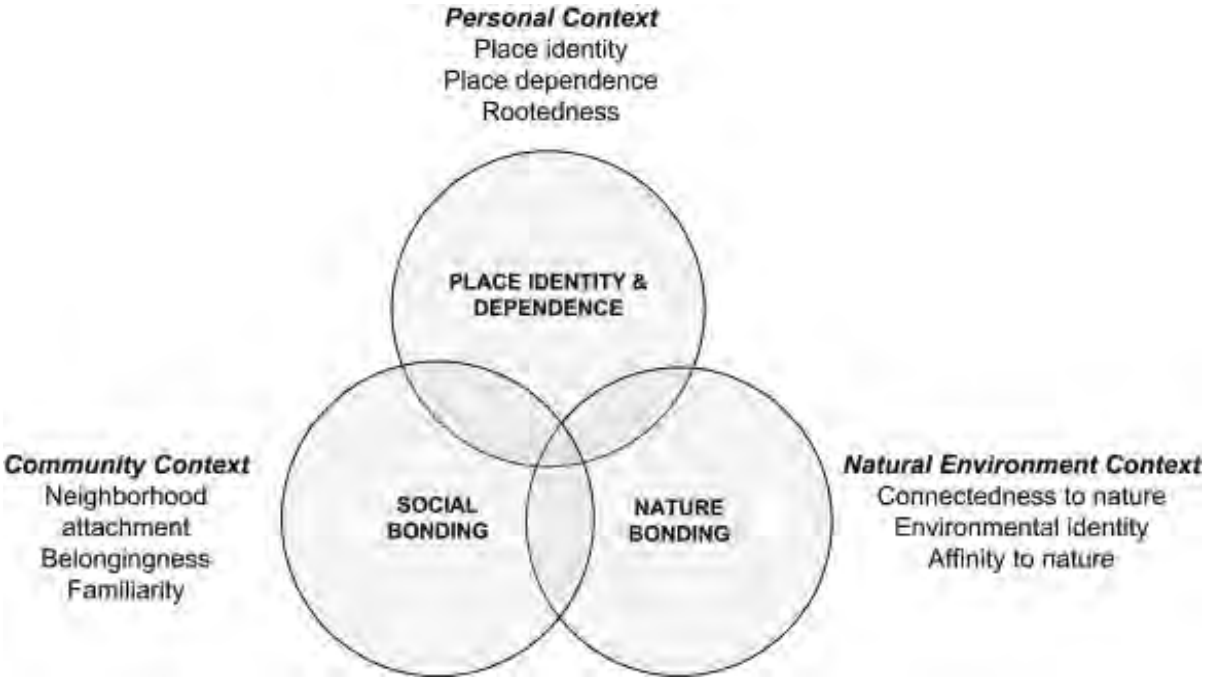

Figure 15: The three-pole conceptual model of place attachment (Raymond, Brown, and Weber 2010). In this article, we have replaced the term "nature bonding" by "biophysical bonding", in order to dismiss the de-politicised and controversial notion of "nature".

Place attachment emerges from the conceptualisation of *place* in the social sciences (see Cresswell 2004 for a thorough review), which derives from the concept of topophilia developed by Tuan (1977) and more broadly from the work of phenomenologists interested in people-place interactions since the 1950s (Low and Altman 1992). Place-related concepts are various and include sense of place, place attachment, place dependence, sense of community, rootedness, and place identity. An array of frameworks exists on place attachment, and the concept has been conceptualised in multiple ways (Manzo and Devine-Wright 2014). Place attachment can be broadly defined as an emotional or affective bond developed towards *places* (Low and Altman 1992; Manzo and Devine-Wright 2014). It is mostly understood as a positive bond and may be expressed on various spatial scales. Individuals may develop ties with their neighbourhood, village, city, province, state, etc. (Gustafson 2014). The concept is wide and encompasses bonds individuals develop towards various dimensions of place. Low and Altman (1992) show that the origin of place attachment is mainly biological, environmental, psychological, and sociocultural, although these dimensions are interrelated. In this research, we use the tripartite model developed by Raymond et al. (2010) which suggests that the concept of place attachment incorporates place identity and dependence, social bonding, and biophysical bonding (see Fig. 15):

–Place identity and dependence relate to "highly personalized connections to place" (Raymond et al. 2010, 425). These include daily place-specific activities—strolling, swimming,

fishing, or traditional medicinal practices—and spiritual or symbolic bonds to locations or monuments as receptors of rituals, ceremonies, and so forth (Stedman 2003).

–Social bonding refers to the social dimension of places where social interactions occur, where the community or relatives live, and so forth (Mihaylov and Perkins 2014; Mälgand et al. 2014).

–Biophysical bonding concerns the surrounding living environment—plants, trees, animals, rivers, and so forth—which are perceived as amenities (Stedman 2003; McMichael and Katonivualiku 2020; Sebastien 2020) and to which residents may be attached or connected. This dimension is particularly important in rural areas where biophysical non-human elements usually play a more important role in people's lives.

Attachment to these various dimensions of place may influence modes of moving, travelling, migrating, or staying.

-*The relations between place attachment and (im)mobilities*

De Haas (2014) highlights the role of the structure, defined as "patterns of relations, beliefs and behaviour" (21) including social class, religion, gender, ethnicity, and networks in encouraging or preventing migration. These elements may shape and be shaped by place attachment—hence the importance of research on people-place relationships for mobilities studies. When place attachment is "a positive emotional bond that develops between people and their environment" (Stedman 2003, 672; see also Brown and Perkins 1992), individuals are likely to aspire to spend time, live, or remain in that specific place (Lin and Lockwood 2014). In some contexts, residents refuse to migrate despite pessimistic climate change scenarios regarding the future of their territory due to a strong place attachment (Adams and Kay 2019). For instance, recent research by Farbotko and McMichael (2019) shows that some populations of the Pacific express "a preference to remain on Indigenous lands for cultural and spiritual reasons" (148) and highlights the importance to preserve the right of "immobile" people in the context of environmental changes. Studies by McNamara and Gibson (2009) and Huntington et al. (2018) also show examples of populations which don't want to leave because the place is constitutive of traditions, rites, meanings, and values that are difficult to abandon.

This research follows the work of Farbotko and McMichael (2019), Adams (2016) and Zickgraf (2018) and assumes that a strong place attachment can bolster immobility aspirations (Hypothesis 1, see Fig. 16). However, this work suggests a more complex relationship between place attachment and different forms of mobilities. Di Masso et al. (2019) have shown that place attachment does not always imply voluntary immobility and that different forms of mobilities need to be incorporated into place attachment studies. Mobility may be disruptive in terms of place attachment, however it may also "re-create, maintain or change place attachment" (Di Masso et al. 2019, 130).

Despite the potential of place attachment to better understand voluntary immobility, place attachment and mobility are not contradictory or mutually exclusive phenomena (Gustafson 2001, Milbourne and Kitchen 2014). Gustafson uses the "roots and routes" perspective to explore the complex links between place attachment and mobility. He shows that even highly mobile individuals may be attached to places, but possibly in different ways than

immobile ones: the former may be attached to more places, to larger places and territories, or virtually (Gustafson 2014; see also Suliman et al. 2019 on the ancient Austronesian concept of "*banua"* offering a mobile view on the perception of homeland). In the case of the Kazakh "narratives of place and migration" in Mongolia, Barcus and Shugatai show that individuals may "maintain a continuous, meaningful engagement with a place, even if they reside a long distance from that place" (2018, 1; see also Barcus and Werner 2015). *Place attachment* can be maintained, reshaped, modified, and reimagined through mobility, and while it does not necessarily imply immobility it may influence different forms of mobility. Hence the inclusion in this article of two types of temporary forms of mobilities: rural-urban *reversible* mobilities for few days or weeks usually (*reversible* here qualifies mobilities that necessitates a long travel time but with an outward and return journey close in time[73]; see Kaufmann and Montulet [2008, 48] on the notion) and circular mobilities for few months to several years. However, whether it encourages flows or fixities, place attachment implies a close relationship with a place and may strengthen engagement towards this place.

-Place attachment and adaptation to disaster risks: Definitions and processes

Studies have shown that being attached to a place is often accompanied by a desire to take care of it, or to engage with its sustainable management (Fresque-Baxter and Armitage 2012; Devine-Wright 2013). A strong place attachment may increase adaptive capacity insofar as individuals can capitalise on place-specific knowledge, place-protective behaviours, and place-based social ties in order to adapt to adverse environmental or socioeconomic conditions (Hess et al. 2008; Khanian et al. 2019). Here, following the definitions of the Intergovernmental Panel on Climate Change (IPCC), we define adaptive capacity as "the combination of the strengths, attributes, and resources available to an individual, community, society, or organisation that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities" (IPCC 2012, 556). As suggested by this definition, adaptive capacity is highly subjective because strengths and resources may vary from one individual to another and because the individual's perceptions of strengths and resources shape their adaptive capacity. Furthermore, subjective processes such as place attachment and risk perceptions can greatly influence adaptive capacity (see Khanian et al. 2019 for a review). The present study recognises the value of a risk perception analysis which acknowledges that "perceptions of risk are not determined solely by the actual climate hazard; rather, it is a complex outcome of inherent biases as well as social, cultural, political, and emotional factors" (Rühlemann and Jordan 2020, 1). The notion of *disaster*, which is mobilised throughout this study, similarly depends on such factors (Oliver-Smith 1999; Ibañez-Tirado 2015). In the context of this study, adaptive capacity refers to adaptation to disaster risks and is assumed to be fostered by place attachment (Hypothesis 2, see Fig. 16).

[73] These mobilities are of short duration but can't be coined 'daily mobilities' because they usually extend on several days for practical reasons (long travel times, lack of vehicles available or adverse road conditions).

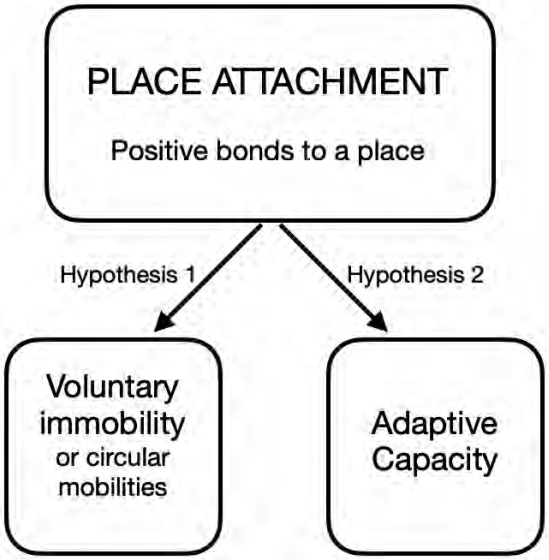

Figure 16: This conceptual model of the relationship between place attachment, voluntary immobility, and adaptive capacity is inspired by the "mechanism of climate change impact perception, place attachment and subjective adaptive capacity" (Khanian, Serpoush, and Gheitarani 2019, 79).

Building on these theoretical considerations, this paper addresses the issue of voluntary immobility in the face of environmental risks through the perspective of *place attachment*. What factors keep the Bartangis in place despite significant risks? How do people-place relationships and adaptation intersect? The research relies on the assumptions that a strong place attachment encourages the Bartangis to stay in their place of origin despite disaster risks (Hypothesis 1) and to adapt in situ (Hypothesis 2; see Fig. 16). This research considers voluntary immobility as the aspiration to stay, remain, or return to one place (in this case, a specific village or valley). Different forms of circular and temporal mobilities will also be studied since they allow individuals to maintain affective bonds towards places. The following section introduces the geographical context of this research and presents the main risks threatening the population under study.

6.2.4. Research context

6.2.4.1. Introduction to the Pamirs of Tajikistan

The VMKB Province covers 64,000 square kilometres (about half of the surface area of Tajikistan). The population of the VMKB is estimated to be 216,000, or approximately 3% of the population of Tajikistan (Middleton 2016). It is home to three major ethnic groups: the Pamiris, the Tajiks (especially in the Vanj and Yazgulom valleys), and the Kyrgyz. The Pamiris comprise different linguistic groups such as the Bartangis, the Rushanis, the Shughnis (whose dialects are mutually intelligible), and the Wakhis. Apart from language, the Pamiris are distinguishable by their religion (Ismaili Shia Islam, while the majority of the Tajikistani

population including the Kyrgyz is Sunni). My main research area was the Upper Bartang Valley—including Savnob *jamoat* and Basid *jamoat* (third-level administrative divisions in Tajikistan)—inhabited by about 4500 Bartangi Pamiri (Kicherer 2019). It is a particularly remote area, difficult to access (Bliss 2006; article 5, this thesis) and characterised by a relatively high level of poverty.

After the collapse of the USSR (1991) and the Tajik Civil War (1994–1997), many Pamiris who had been working or studying in other parts of the Soviet Union returned to their native regions. This coincided with the collapse of the Soviet provisioning system (including food, health, and education facilities), putting the Pamiris in a critical socioeconomic situation (Bliss 2006). Thus, the 1990s were followed by increased demographic pressures due to limited availability of arable land. Today the population is still predominantly rural and the provincial economy mainly dependent on subsistence agriculture and temporary out-migration (Middleton 2016).

6.2.4.2. Specific risks and adaptive capacity

In recent decades the VMKB has undergone several political and economic shocks from which it has not fully recovered. The VMKB is often depicted as the poorest region of Tajikistan, which is the poorest country of the ex-Soviet republics (Middleton 2016; Bliss 2006) with a GNI per capita of about $1100 in 2018[74]. In the VMKB and other remote areas, food insecurity, energy insecurity, and a lack of access to healthcare facilities are paramount issues (Article 1, this thesis; Middleton 2016). The Province is mountainous, and the population lives between about 2000 and 3600 m.a.s.l. The Western Valleys—where most people live—are very steep and prone to frequent environmental hazards such as avalanches, rockslides, floods, and mudslides, which pose serious threat to villages, cause environmental displacements, and frequently block roads (see Article 1, Section 4. 2., for a review). These hazards are projected to increase under the effect of glacial melting in mountainous areas (Hock et al. 2019). In the Upper Bartang Valley, Lake Sarez and its natural dam formed after an earthquake and a massive landslide in 1911, also threatens life in the Valley and beyond. The stability of the dam raises concern especially given the frequency of seismic activity in the region. As Bliss writes, a collapse of the dam would "not only destroy all life in Bartang but would also cause great damage in the Pyandsh [Valley] all the way to southern Tajikistan" (Bliss 2006, 29). As previously stated, vulnerable socioeconomic conditions reinforce the severity of disaster risks in the Bartang Valley (IPCC 2012).

The Pamiris have a long history of dealing with hazards, which has shaped their perceptions of risks and adaptive capacity. The increasing number of projects and initiatives focused on disaster risk reduction in the province also make residents aware of current environmental risks[75]. Ibañez-Tirado (2015) develops the notion of "everyday disaster" in Tajikistan to explain how catastrophic events combine with the difficulties of mundane everyday life. Environmental risks are severely felt and dreaded in some villages of the Pamirs,

[74] https://data.worldbank.org/country/tajikistan?view=chart

[75] See for instance the projects of the Aga Khan Agency for Habitat (AKAH) in the province: https://www.akdn.org/where-we-work/central-asia/tajikistan/habitat-tajikistan

although they are often overshadowed by food security and economic issues, which may directly impact everyday lives. Socioeconomic and disaster vulnerability has certainly pushed some Pamiri to migrate in order to seek better conditions elsewhere.

6.2.4.3. (Im)mobilities in the region

*S*ince the 1990s international out-migration has been a notable phenomenon in Tajikistan (520,000 migrants in a population of about 8,670,000 in 2016[76]), which can be seen as a response to the challenges of the domestic economic situation. Soon after the collapse of the Soviet Union and the Tajik Civil War in the 1990s, the country became dependent on remittances from migrants abroad, especially those in Russia. In 2008, remittances accounted for 50% of the Tajik GDP and still amounted to 29% in 2018[77]. This dependence on remittances calls into question the sustainability of the national economy and highlights social difficulties linked to the absence of a large portion of the population (Middleton 2016; Nazridod et al. 2019).

Urbanisation is also an important phenomenon, fueled both by socioeconomic aspirations in a context of globalisation and environmental hazards in mountainous areas (Blondin 2019), though figures on this topic are not readily available (Rubinov 2016). The Pamiris have a long history of internal migration. In 2017, the mayor of the Basid *jamoat* provided me with data stating that 5.5% of its inhabitants had migrated to Russia and 8.3% to Dushanbe. Rural-urban mobilities are also essential to accessing markets, jobs, and healthcare facilities. Nonetheless, much of the country's infrastructure is poorly maintained and exposed to hazards, public transportation is nonexistent in the VMKB, and the motorisation rate is still very low in some valleys (see article 5, Section 7.2). As Reeves noted during her research on (im)mobilities in Central Asia, "A richer understanding of labour migration can be gained by bringing different scales of movement into the same analytical frame" (2011, 555). For instance, rural-urban short-term mobilities in order to access goods or services may boost a population's adaptive capacity to socioeconomic and environmental changes, and limit migration aspirations.

Notwithstanding the importance of out-migration and the knowledge about and experiences of environmental disasters, the value of immobility and a strong sense of belonging are often expressed in the Bartang Valley. This research is based on the assumption that despite disaster risks, place attachment among the Bartangis is strong and fosters immobility aspirations in the region. Although the literature on *place attachment* in Tajikistan is almost nonexistent, studies have suggested that the Pamiris have a strong attachment to their sacred sites (Aknazarov et al. 2002) and to place-specific *barakat*, or spiritual blessing (Kicherer 2019).

In summation, the collapse of the USSR has proved challenging for the population of the VMKB in socioeconomic terms. In addition, climate variability in dry and mountainous areas directly threatens populations, infrastructure, and arable land. These difficulties have resulted in a high rate of out-migration in the region. Thus, the purpose of this article is not to demonstrate that the Pamiris are immobile, nor that they all aspire to immobility. Rather, I

[76] https://data.worldbank.org/country/tajikistan
[77] https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=TJ

intend to understand more fully the factors shaping immobility aspirations in the region, as preliminary observations have revealed that immobility aspirations are widely expressed in the Bartang Valley—and that migrants often move temporarily, for specific periods—because of strong ties to their valley of residence or origin. Therefore, the concept of *place attachment* is used as an analytical tool to explore immobility aspirations. This article also examines how place attachment relates to adaptive capacity, which can help residents sustain a livelihood in situ and therefore remain (Khanian et al. 2019; also see Fig. 16). The following section presents the research methodologies deployed during fieldwork.

6.2.5. Methods

This research does not attempt to quantify place attachment but rather explores what shapes it and how it may influence (im)mobility patterns. I rely here on ethnographic qualitative data gathered during eight months of fieldwork conducted between 2015 and 2019. My aim was to learn how place attachment is expressed in everyday practices and conversations. For this purpose, I took a non-representational approach by asking: What are people-place interactions? What are their place-specific activities? Participants' observations of daily life, everyday encounters, and informal discussions were crucial in addressing these questions. Creating videos also helped me to grasp the factors that shape the material and physical aspects of attachment (see article 2, Section 5.4.3.) and adaptive capacity (building or repairing infrastructure damaged by environmental hazards, for instance). Interviews with adults of different ages further clarified my early findings, especially regarding perceptions of the living environment and how (im)mobility aspirations are formed. Since 2015, seventy interviews were conducted as part of a broader research agenda; of these, twenty were specifically focused on place attachment (ten of which were filmed). In this sample of 20 people, I chose individuals displaced by floods and rockslides, residents of Ghudara (a village severely affected by a 7.2-magnitude earthquake in 2015), Bartangi people who live in the Valley only intermittently, or individuals who insisted on attachment to *watan* [homeland] during our conversations. The interviewees were of different gender, from different generations (from age 22 to 83), and had different experiences of (im)mobilities. Some spend or have spent part of their lives in Moscow, Dushanbe or other parts of Tajikistan including as forced *displacees* during the Soviet Times, others have close relatives in Russia. This diversity of profiles has enabled to delve into the relations between place attachment and (im)mobilities. These open interviews took place at the homes of the interviewees. The central questions focused on what *watan* signified for the interviewees, what their relationship with *watan* implied in terms of mobility aspirations, and why they had decided to remain in or to come back to the Bartang Valley. A local research assistant and translator helped conduct the interviews. A short movie titled *Where the Umbilical Cord was Cut* presents audiovisual elements of place attachment and excerpts from the interviews[78].

As my study connects place attachment with practices and aspirations of (im)mobilities, I also explored individual mobilities by following certain people during short-distance displacements in shared cars or on foot. This helped me to give "more prominence to

[78] Available here: https://vimeo.com/396632649/5eba27df4c

embodiment and sensory aspects of place experience" (Di Masso et al. 2019, 131). Mobile methods of co-itinerance, video-making on the move, and mobile autoethnography aided my consideration of ways to practice (im)mobility.

These qualitative methods, partly mobile and driven by everyday practices, have helped to apprehend what place attachment consists of in the Pamirs and how it influences (im)mobilities, processes, and relations which the following section addresses.

6.2.6. Results: A multifaceted place attachment influencing voluntary and adaptive immobility

6.2.6.1. A strong place attachment expressed through multiple indicators

Place attachment is strongly expressed among the Bartangis and covers multiple dimensions. The following subsections present place identity and dependence, social bonding, and biophysical bonding as the three central pillars of place attachment, contributing to an understanding of which elements of people-place relationships can shape an individual's desire to stay in place.

–Place identity and dependence

Firstly, it is important to note that when asked about potential mobility aspirations, many interviewees expressed a rather traditional attachment to their Valley, which was mainly emotional and not easily expressed verbally, corresponding to familiarity and habits. This relates to what Di Masso and colleagues have called an "unreflective attachment" (Di Masso et al. 2019, 130), expressed by the long-term residents of a place, some of them having never lived anywhere else, and for which attachment to place provides the foundation for their ties to family and tradition. In other words, these interviewees did not want to migrate simply because they were "used to" their village, the place they knew best. A majority of respondents stressed that homeland (*watan*) was sweet (*shirin*)[79] and therefore constituted a privileged place to live, but many had difficulties explaining further why they were so emotionally attached to it specifically. "*Watan shirin*" is a widely used expression in Bartang to characterise, as Khorkash, an interviewee from Basid village told me, the attachment to the place where one's "umbilical cord was cut". The following is an excerpt from one of the short videos filmed during fieldwork:

> Safarbegim (interviewee from Bardara village): The homeland is sweet, the homeland is sweet. Don't you think?
>
> Qudrat (interviewer and research assistant): Yes, it is true.
>
> S: Would you move from Basid?
>
> Q: No.
>
> S: Well, that is the same for me.

Regarding the meaning of *watan* [homeland], participants gave answers ranging from their village or their valley (Bartang) to the province (VMKB) which is inhabited by members of their shared religious community as well as speakers of the Pamiri languages (despite the various dialects). Homeland is expressed and given meaning on different spatial scales. The

[79] *Watan shirin* (loosely translated, "home sweet home") is a common expression among the Pamiris.

meaning of place depends on its attributes and the population's emotional bonds to it, which are both integrated into the concept of place attachment (see Lewicka 2011). This emotional and rather traditional attachment to *sweet homeland* does not directly rely on specific social, cultural, or psychological aspects of people's lives but rather on familiarity and a sense of comfort, both of which imbue a place with strong personal meaning. However, collective connection to *watan* is shaped by many other historical and sociocultural factors that influence more emotional and less cognitive forms of attachment.

Place attachment is also occupational since many economic activities are land-based, such as subsistence farming and herding (see Brown et al. 2015). Most residents of Bartang don't have paid employment and instead rely on agriculture and herding, making these activities deeply connected to the Bartangis' perception of identity. Interestingly, in the village of Ghudara which was severely affected by a 7.2-magnitude earthquake in December 2015, residents decided to stay despite an offer by the government to relocate them in the Bartang Valley, some 100 km away from their village (see interview with Elnazar in the short movie). Several of my interlocutors there explained that residents declined the offer mainly because of "*our* animals and lands"—the fact that their main economic activity depends on the land only strengthens the Bartangis' place attachment.

Similarly, religious practices shape the pace of life in the Bartang Valley and are strongly connected to notions of place and identity. The Bartangis pray at home or in shrines *ostanen*) decorated with elements of the local environment such as ibex horns (see Bliss 2006), which underlines their rootedness in a particular territory. These decorative elements are not intrinsically part of religious practices but illustrate how the Ismaelism in the region integrates elements of the local physical environment. Shrines and mausoleums (*mazaren*) are believed to provide strong protection, strengthening the bonds between residents and place, and contributing to a spiritual attachment to specific villages and valleys. For the Bartangis, their valley as a whole has a significant spiritual power. They consider themselves blessed with a particularly strong divine protection (*barakat*) given the harsh living conditions (Kicherer 2019). They speak of "Bartangi *barakat*", which underscores the perceived place-specific dimension of spirituality and participates in shaping place attachment. Religious practice, although highly intimate and individual, shapes community life in Bartang. This illustrates how the "structure", as described by De Haas (2014), may influence (im)mobility aspirations. The next section explores how the Bartangis live communally and how social bonding also plays a central role in place attachment.

–Social bonding

Place attachment is strongly associated with group identity as Bartangi. Some interviewees explained that they were particularly attached to the whole territory inhabited by *their* people (*mash mardom* [our people], referring to Pamiri-speaking Ismaili people).[80] Concerning language, the fact that many Pamiri dialects exist in the region reinforces

[80] Who is considered Pamiri is generally not straightforward since religions (Sunni Islam, Ismaili Shi'i Islam) and languages (different dialects of Pamiri, Tajiki, Wakhani and Kyrgyz) are diverse among populations living in the Pamirs.

particularisms and attachment to rather small and linguistically distinctive places. In the Bartang, people mostly refer to themselves as Bartangi rather than Pamiri, underlining their perceived difference from other Pamiri people.

Place attachment is also reinforced by a strong sense of community. In Bartang, group self-organisation and collective self-governance is paramount. The Bartangis are used to supporting each other financially or through community projects. As the spiritual leader (*khalifa*) of Roshorv village explained to me during a conversation: "Here, everyone is responsible (*masloul*). This is our duty (*wazifa*) to take care of each other, of the road and infrastructures." The Pamiris often gather voluntarily to build or repair infrastructure, for instance in the case of damage due to environmental hazards. This collective volunteer work is known as *hashar* (for communal purposes) or *karyar* (for private purposes). Money is also collected for village-based mutual funds (*gadja*). This "cooperative and self-governing community organization known as *mahallah*" (Middleton 2016, 261) provides the Bartangis with strong social capital which reinforces attachment to their specific valley.

In Bartang, local migration history has also shaped place attachment and a collective perception of the valley as a preserved safe haven. Such History-based forms of attachment was mostly expressed by interlocutors from elder generations (born in the 1950's and before). Forced resettlements during the Soviet era, their negative consequences, and the people's return are seen as an expression of the close people-place bonds and particular value of the valley. These resettlements took place in 1953 in Bartangi villages such as Basid and Ghudara. Inhabitants claim that half of the population who left died because of bad living conditions, mostly due to heat and poor water quality. The idea that Bartangi "mountaineers" are made to live exclusively in the mountains is widespread and underpins their strong collective identity and attachment to a (perceived as) unique local environment. Gharibsho from Basid comments on the relocations and returns during the 1950s in the following excerpt from the short film:

> We are not used to the climate [in the new location] because we are mountain people. Because of the heat, we cannot stand it here, half of the people have died. We cannot stay here so let us come back to our place.

The Tajik Civil War also reinforced place attachment. Zafar from Roshorv explained that he was a teacher in Dushanbe when the war broke out, and returned to his village during the conflict like the majority of Pamiris. After he spent five years there he felt like he belonged, and never wanted to go back to *Tojikiston* (referring to the non-Pamiri part of the state). This echoed the conversation I had with the *khalifa* of Roshorv who told me the village was a safe haven (*panohgoh*) far from the dangers of the city, where people were freer (*ozoddur*): "Here, nobody threatens you" ("*Inja, hichkas tahdid namekonad"*)[81], he said. Feeling "safe and secure in a place" (Fresque-Baxter and Armitage 2012, 255) is another important component of place attachment. Collective historical events—such as Soviet forced relocations or the Civil War—contribute to the formation of place attachment through a perception that the remoteness of the Valley provides a refuge, especially for the residents who have faced difficulties elsewhere

[81] Conversation in Tajik (not in the local Bartangi language).

(harsh living conditions, exclusion, discrimination and so forth). The physical remoteness of the Valley also conditions another dimension of place attachment, biophysical bonding.

–Biophysical bonding

Despite disaster risks, my Pamiri interlocutors expressed important attachments to environmental features of their living environment, considered as amenities. They mostly perceive the region as particularly clean and pure (*toza*), insisting that their distance from any forms of pollution results in a high quality of local fruits, vegetables, dairy products, and meat. The "pureness" (*tozagi*) of the air and water is often considered one of the best features of life in Bartang and motivates residents not to use chemicals in agriculture. When outsiders visit local vegetable gardens and orchards, the Bartangis make a point of mentioning that their crops are grown "without chemicals" (*bez khimikatov,* in Russian). Biophysical bonding fosters local agricultural expertise with the use of a "calendar of the human body", where different parts of the human body serve to measure the rhythm of the seasons. These calendars "reflect an intimate knowledge of the complex connectivity between the human body, agricultural activities, and ecological processes" (Kassam et al. 2018, 251). Through attachment to the perceived pureness of their Valley, the Bartangis express a sense of uniqueness and a desire to preserve their bonds to place. In the following excerpts from our short film, interlocutors underline the perceived distinctiveness of their valley as central to their place attachment:

> The main advantage of the place is its pure air and its pure water.
>
> Gharibsho, from Basid.
>
> When we feel that we miss the landscapes, the climate and fresh air, we will always desire to come back.
>
> Khorkash, from Basid.

This connectedness to the living environment influences perceptions of life in the city, which is viewed as the antithesis of village life—individualistic, polluted, or too dependent on money. For example, Gulpari from Basid told me that she once went to the city (Dushanbe) and insisted that she particularly disliked it because of the bad smell. The khalifa of Roshorv told me that "in the city, you are not free" ("*Dar shahr ozod nisti")*[82]. Several interviewees also deplored the fact that in cities livelihoods depend on acquiring money. This is viewed in opposition to life in the village, which is based on agrarian work, harvests from family gardens, exchange, and solidarity. For some interviewees, such perceptions of lives in the cities were based on their own mobility experiences, for others they were based on close relatives' experiences and stories. As De Haas (2014) noted, perceptions of life elsewhere also shape (im)mobility aspirations. Thus, many interlocutors told me they would not like to move to a town or a city because of their attachment to their *pure* environment and strong sense of community.

Interestingly, people-environment bonds are also present in the local architecture. The vast majority of Pamiri houses where the Bartangis live[83] feature a ceiling reproducing the four

[82] Conversation in Tajiki (not in the local Bartangi language).
[83] Except for inhabitants living in recent post-disaster houses financed by the government.

"natural" elements. More precisely, a skylight incorporates four concentric square layers known as *chorkhona* (literally "four houses" or "four rooms") representing earth, water, air, and fire (see Bliss 2006, 170). Local architecture is supposed to keep the Pamiris in close connection with their living biophysical environment. Thus, many features of the biophysical environment are perceived as amenities despite threatening disaster risks.

In summation, place attachment is multifaceted in Bartang. Connection to *watan* shapes individual identities through everyday activities and symbolic and spiritual connections to place. The social dimension of places where social interactions occur and the strong connectedness to the surrounding biophysical environment also influences place attachment in the Bartang Valley. The significant and multifaceted place attachment of the Bartangis illustrates why many don't aspire to leave their homeland—or, if they do, only for specific periods and with the intention of returning, as suggested by our conceptual framework (Fig. 16). Relations between place attachment and (im)mobilities are the focus of the next section.

6.2.6.2. Place attachment bolsters immobility and temporary mobilities in Bartang

A positive place attachment is likely to create or reinforce immobility aspirations. However, place attachment may also shape (and be shaped by) specific mobility patterns (Gustafson 2014). The next section provides a typology of various forms of (im)mobilities, which help maintain affective bonds towards homeland that include immobility as well as temporary forms of mobilities.

–Voluntary immobility

For cultural, spiritual, or psychological reasons, populations may express a preference to remain in place even when faced with disaster risks (Farbotko and McMichael 2019). The strong and multifaceted place attachment of the Pamiris shapes immobility aspirations. For example, the Bartangis consider that their ancestors returned after the forced Soviet-era relocations because of their unique relationship with their homeland, which to them proves the importance of remaining. Bad memories of the consequences of these relocations in the lowlands are still used to justify current immobility aspirations, especially by elder generations. In the short film, Elnazar from Ghudara explains:

> Here the air is pure, water is pure. The city doesn't have such a pure air. This is why people came back here [after the forced relocations of the 1950s] and didn't want to go anywhere else. So, when in 2015, the earthquake struck and the government offered to move us, they said, "It is better for you to move, [down] there is hot weather, conditions are better." But people didn't want to move.

More generally, the love for *watan* is often mentioned as a reason not to leave. Leaving one's homeland may even be considered bad (*ganda*), as Safarbegim from the village of Bardara mentioned (see her interview in the short movie). For some of my interlocutors, leaving is negatively connotated since it often means leaving close relatives "behind". Such view is more commonly expressed by those who experience or have experienced the long absences of loved ones such as Safarbegim whose children currently live in other parts of Tajikistan. Many young interlocutors also told me they aspire to remain on their lands, engage with their community, and stay close to their parents, emphasising central human values of care, solidarity, and

responsibility. The family's youngest son is supposed to stay in his parents' home and take care of them as they age, which means that Pamiri social organisation further reinforces immobility aspirations. This makes it hard to distinguish voluntary immobility from *acquiescent* immobility (when one aspires to stay and also does not have the capability to migrate; Schewel 2019, 8–9). Although my interlocutors expressed the will to remain, their mobility options (or capabilities to migrate) were hard to assess within the frame of this study. However, the connection to *watan* is often emphasised, as well as its capacity to boost immobility aspirations or to encourage migrants to return.

–International migration and return

Not all Bartangis are immobile, and international migration (usually labelled "labour migration") involves a large portion of the population of the Pamirs, and Tajikistan as a whole. In the region, immobility and mobility and non-migratory and migratory behaviours are complementary. Most migrants or potential migrants intend to return to their homeland for permanent residence, alternating between seasonal mobility and immobility (Kuddusov 2010). Many of my interlocutors who had been migrants (or planned to be) considered mobility as compulsory and of limited duration—a way to achieve plans such as financing a wedding, a house, education, or starting a business back in Tajikistan. In villages of the Upper Bartang, a number of houses have been under construction for years. These are being built by relatives of migrants or by the migrants themselves every time they come "home". Regarding out-migration from his village, Qarghizboy from Ghudara told me:

> When their work is finished, why should they stay there? Their kids are here. They leave there [abroad] alone, they work, and then come back.

As such, migration is often perceived as a life stage or rite of passage for young individuals—primarily men—as well as a means of earning income and acquiring skills (Mata-Codesal 2015) before settling down in the *watan*. Some interlocutors who had experiences of migration even explained to me that the Bartangis need to leave for some time in order to appreciate the sweetness (*shirini*) of life in the Valley.

In most cases married men leave alone because their migration is seasonal, although it can last several years. Taking family members would be economically disadvantageous (Kuddusov 2010) and immobile members (such as wives) usually take care of the elderly, the lands, and the animals. Within households, mobility and immobility are therefore complementary and simultaneous. Migrants use migration as a way to fulfill projects in their *watan* and to maintain a strong relationship to place. Temporary migration is therefore a strategy to remain in the homeland in the long run. They "leave in order to stay" (De Haas 2014, 26) and maintain strong ties with a place they aspire to come back to (Barcus and Shugatai 2018). The connection to *watan* makes people relocate only in specific cases.

–Short(est)-distance migrations

In the aftermath of environmental disasters like earthquakes, many people relocate involuntarily. Most of my interlocutors whose houses were destroyed in 2015 chose to stay as close as possible to their previous dwelling place. People who wish to remain generally

undertake these short-distance migrations as a last resort. In this excerpt from the movie, Qudrat from Basid tells us:

> Only if people don't have any other choice, they leave. If we had had the choice, we would not have left.

Qudrat's family home in Basid was destroyed along with those of other families from their neighbourhood. They moved to the closest safe place (in terms of environmental hazards) where they had the opportunity to relocate—Shoshindasht, a new village about seven kilometres away. In the aftermath of the 2015 earthquake in Upper Bartang, which was particularly destructive in the village of Ghudara, people were able to relocate within the village thanks to financial and material support provided by the government and other international organisations. They had to leave their traditional Pamiri-style houses for new houses built in the village.

My fieldwork also brought out an interesting case of a planned relocation near Basid. Many of my interlocutors there explained that because of disaster risks—including critical exposure to river outflows, rockslides, and avalanches—they plan to move to a flatland area 300 m above the village called Khabust. While seemingly safe from environmental hazards, the area is nothing more than dry land without access to clean water, electricity, or roads. Nevertheless, inhabitants are more or less optimistic about this project and its feasibility, which necessitates investments from donor organisations. The plan was presented to me as a way to stay in the homeland despite the risks. Residents of Basid would prefer to move a short distance and rebuild houses and infrastructure from scratch rather than leave their homeland. This community initiative would meet the needs of the population involved and allow residents to remain; however, it also requires significant financial and technical resources, which can prompt residents to seek opportunities and support outside the Valley. An international group involving the Aga Khan Agency for Habitat, the professional design firm KVA MATx, and the Massachusetts Institute of Technology has worked on a voluntary relocation project from Basid to Khabust about which these institutions have recently communicated (see https://movingtogether.mit.edu/pamirs). The project receives enthusiastic reaction from the residents of Basid but it is still uncertain when it could be implemented.

–Circular rural-urban mobilities

Internal mobilities within the province, mainly rural-urban, play a crucial role in Pamiri livelihoods. Most Bartangis are mobile on a provincial scale even though they have immobility aspirations in the sense that they don't aspire to migrate. Rural-urban mobilities allow people to sustain their livelihoods and remain in their homeland. Residents travel between villages and the city but still dwell in villages. Most Bartangis visit Khorog, the provincial capital, several times a year and stay for some days in order to access products or services such as healthcare (see article 5, Section 7.2). These mobilities are therefore *reversible* (Kaufmann and Montulet 2008, 48) since individuals remain "based" in *their* villages (the Bartang Valley is their main dwelling place), which don't imply a profound social change.

Other forms of circular migrations exist in Bartang and concern individuals moving to Khorog or Dushanbe for months or years for education or work purposes. A majority of youth from the Bartang Valley study in Khorog, men go temporarily to work there on construction

sites, and women sell hand-knitted socks in the market. Temporary workers tend to stay for few months; students usually take four years to complete their university studies while returning to their village for summer and winter breaks. These provincial mobilities allow the Bartangis to sustain their livelihoods or fulfill life aspirations while maintaining close connections with their village. Interestingly, ties to the village are also maintained through mobilities related to children: it is common for grandparents in Bartang to raise grandchildren while the parents work in a city (Dushanbe or Moscow mainly), and even children who live with migrant parents often spend summers in Bartang in order to experience their ancestral "homeland" and enjoy fresh food (see Barcus and Shugatai [2018] for a similar example). These mobility patterns can be understood through a place attachment perspective: short-scale and/or short-term rural-urban mobilities help people to support their households without leaving their *watan*. Place attachment encourages the Bartangis to circulate while staying connected to their valley.

In summation, place attachment in the Pamirs fosters immobility aspirations but also circular and reversible mobilities and short-distance relocations. Rural-urban mobilities within the province allow access to goods and services without migrating. These mobilities allow individuals to keep close connections with their villages and extended families. Out-migration, a significant phenomenon in the region, is mostly temporary and seen as a way to save money for specific projects in the homeland. As suggested by our conceptual model (Hypothesis 2 in Fig. 16), place attachment also fosters the adaptive capacity of the Bartangis, which helps them to remain in their native lands. The next section explores this causal relation.

6.2.6.3. Place attachment enhances adaptive capacity, which reinforces aspirations to stay.

When individuals are tied to a place or, more broadly, develop emotional bonds with a place, this motivates them "to attend to, care for and take actions on behalf of [it]" (Devine-Wright 2013, 61). In the case of Famenin farmers in Iran, Khanian, Serpoush, and Gheitarani (2019) show that "only through the place to which Famenin farmers are emotionally attached are they able to increase their adaptive capacity and raise their tolerance for staying" (78). Our results support this idea, since the Bartangi community engages towards the sustainability of their livelihoods. This section gives examples of how the Bartangis adapt to disaster risks in order to remain.

–The subjective adaptive capacity of the Bartangis

As explained in the conceptual section, adaptive capacity, like risk perception, is subjective. It is shaped by place attachment (Khanian, Serpoush, and Gheitarani 2019) but also by local history in terms of risks and how people act in relation to them. The Bartangis have a long history of coping with different types of risk. In the Pamir mountains, disaster risks are a common feature of daily life. Many of my interlocutors asserted that they are able to deal with risks because their ancestors chose to live in this place, even after being forced to relocate during the Soviet era. For them, the long history of an established human settlement in the Pamirs supports such a claim. Pari from Basid told me she was reluctant to move because her ancestors had lived in the same village for centuries. Khorkash from Basid thinks that the Bartangis are protected from danger, even though he recognises the risks: "Our village is a risky place but God takes care of us" (excerpt from the movie). Faith in their *barakat* therefore helps people cope with risks (Kicherer 2019). These historical and sociocultural factors influence adaptive

capacity and can make people more resilient in situ. They also participate in reinforcing community bonds, which can be expressed through the importance of collective actions.

–The importance of collective action in Bartang

As Fresque-Baxter and Armitage have shown, "strongly attached individuals, therefore, can act as catalysts to bring people together in collective action initiatives" (2012, 260; see also Mälgand et al. 2014). In Bartang, voluntary collective action is widespread. Residents usually initiate adaptation and development projects using local resources. *Hashar* (collective and volunteer work) is frequently undertaken by residents to build or repair infrastructure, for instance in the case of material destruction caused by environmental hazards. This is an important feature of social bonding in the region, and illustrates that individuals are used to adapting to changing conditions without waiting for outside support (see also Berkes and Ross 2013). Social bonding, a dimension of place attachment, fuels collective action, itself strengthening social bonding. As an example, residents of Basid maintain the irrigation canal of the village's hydropower plant, which is vulnerable to rockslides, landslides, and avalanches. Certain groups of households are responsible for maintaining specific portions of the canal. In July 2019, about 30 men volunteered to repair a destroyed portion of this canal. Groups of men also frequently repair flooded or blocked sections of the road on a voluntary basis, following rockslides or landslides. The region's physical and sociopolitical remoteness prompts residents to undertake volunteer and collective action. Relocating Basid (or part of it) to the safer, higher flatlands of Khabust is an ambitious project that residents are willing to take on as part of their perceived responsibility (*massouliyat*) towards their community. However, local resources are limited, and villagers often express the hope of receiving support from outside organisations or donors.

-A constant adaptation?

Collective adaptive capacity is crucial for local livelihoods in the Pamirs but insufficient to reasonably control the risks. Life in Bartang pushes residents to adapt to rapidly changing conditions but they lack the means to adapt robustly and sustainably. As Fresque-Baxter and Armitage put it, "Factors others than place identity may hinder collective adoption of adaptive strategies (e.g., resources, health) and must also be considered" (2012, 260). Adaptive capacity is not enough to protect the Bartangis from disaster risks, food insecurity, insufficient healthcare facilities, or negative outcomes of out-migration (Sherbut et al. 2015). In a context of political and physical isolation in a province that has not fully recovered from the collapse of the USSR, the Bartangis live in a state of constant adaptation to environmental hazards and socioeconomic difficulties that have somehow become the norm.

Adaptive capacity is reinforced by place attachment but also by sociopolitical remoteness, which forces residents to engage with various social and environmental issues on their own. As Straub et al. write about isolated rural communities in Oklahoma (USA) that perceive a lack of outside support, "They necessarily must *cultivate* community resilience in response to the risk and threat of natural hazard events, and as a product of these material conditions and perceptions of community disenfranchisement" (Straub et al. 2020, 11). The communities under study, similarly to the Bartangis, remain extremely vulnerable to risks because of a lack of political support, despite strong adaptive capacity.

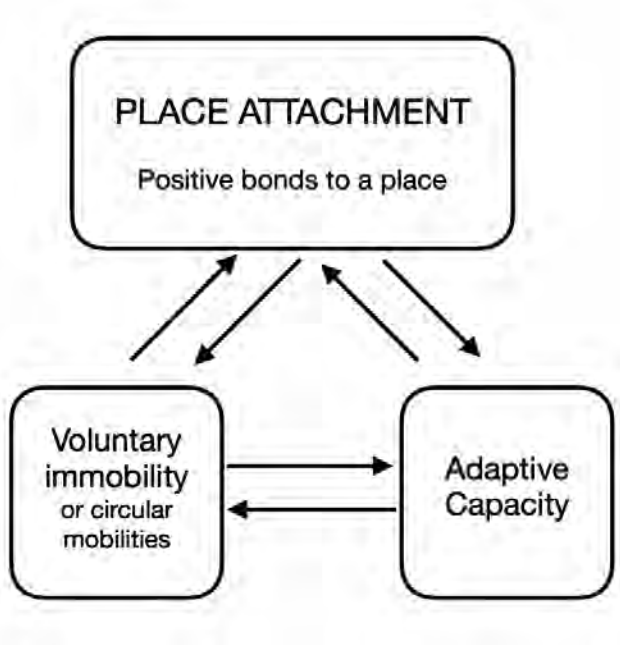

Figure 17: The mutually reinforcing relationship between place attachment, immobility aspirations, and adaptive capacity.

The strong place attachment of the Bartangis helps foster adaptive capacity, as many inhabitants choose to stay and to engage in in situ adaptation projects in order to be more resilient to risks. It seems that place attachment and collective action mutually reinforce each other, which creates a virtuous circle: social bonding is a facet of place attachment, itself bolstering collective action, and reinforcing social bonding. The Bartangis undertake collective actions, which shape their collective sense of responsibility, in order to limit the adverse effects of environmental hazards. This ethos does not necessarily mitigate the inherent risks, but place attachment and collective adaptive capacity help people remain in the Bartang Valley. This supports the idea that place attachment, immobility aspirations, and adaptive capacity form a mutually reinforcing relationship (Fig. 17; see also Khanian et al. 2019).

6.2.7. Synthesis of the results

Results show that in the Bartang valley of Tajikistan, people express strong place attachment related to immobility aspirations and a sharp adaptive capacity despite the risks they face. An exploration of place attachment has revealed its complex and multiple forms, expressed differently by individuals having different (im)mobility experiences and from different generations. Place identity and place dependence are characterised by the importance of place-based activities such as agriculture and herding or spiritual practice. Social bonding is shaped by group identities—such as Pamiri, Bartangi, or "mountaineers"—and determined by a strong sense of community and collective responsibility, which is reinforced by a common history of forced relocations. Attachment to the Valley is also associated with enjoyment of biophysical amenities and connectedness to the living environment. As such, these perceived amenities can compensate for disaster risks (without mitigating them) and, as the conceptual model suggests, attachment can bolster immobility aspirations. Residents who want to remain on their ancestral lands use different kinds of circular mobility patterns as a way to sustain local

livelihoods or migrate for limited periods. As such, residents show a strong adaptive capacity shaped by community resilience and environmental initiatives, which allows them to stay in place despite inherent risks. Our results support the idea of a mutually reinforcing relationship between place attachment, immobility aspirations, and adaptive capacity. This research therefore shows the potential of the concept of place attachment to better understand why populations may choose to stay in areas exposed to environmental hazards such as floods, rockslides, or avalanches. It also contributes to the exploration of the ways place attachment may support different kinds of mobility patterns. Looking at environmental (im)mobilities from the perspective of place attachment foregrounds the aspirations and adaptive capacities of the communities under study. The case of Bartang underlines the important roles that people-place relationships and engagement with place may play in climate change adaptation.

6.2.8. Policy implications

A focus on place attachment suggests important implications in terms of policies related to climate change adaptation for populations under threat. First, certain aspects of local culture, religions, and beliefs may keep people in place despite growing risks. It is crucial that climate change adaptation policies take into account voluntary immobility aspirations and do not impose adaptation strategies without consent (see Adams 2016; Zickgraf 2018). For those who do not aspire to migrate, fostering adaptive capacity in situ is crucial. Policies should ensure that voluntarily immobile populations have access to relevant and comprehensive information on risks and potential consequences (Zickgraf 2018) and be supported in implementing adaptation or risk-management plans. Adapting to new environmental conditions should not remain the responsibility of vulnerable populations alone (Gioli 2017; Rubinov 2019). In the context of drought in Western Iran, Khanian et al. 2019 note that "It seems that this insistence on adaptation will continue until the new economic and physical condition dominates the inhabitants' place attachment and their meaningful elements and eventually outweigh their tolerance" (2019, 78). Without increased political efforts, in many cases community adaptation and tolerance might not be enough to ensure human security. However, keeping the importance of voluntary immobility in mind, we should embrace the ambiguity of the concept. People who aspire to stay are not always fully immobile. Policy should support motility (mobility potential) on different scales so individuals can practice *reversible* mobilities (the valley remains the main dwelling place) and temporary migration that allow close connections with places they are attached to. In some contexts (and often in mountainous areas), rural-urban mobilities support livelihoods and determine the potential to stay (not to migrate). Short-distance and short-term mobilities may also be impacted by environmental hazards (see article 5, Section 7.2) and therefore constitute another concern for environmental adaptation. Sheller's *mobility justice* perspective reflects the interrelatedness of different mobility scales and addresses how insufficient motilities lead to crucial social inequalities (Sheller 2018).

6.2.9. Discussion and theoretical perspectives

This paper shows the importance of addressing immobility from the perspective of place attachment and highlights the relevance of adopting a mobilities lens within the environmental mobilities research agenda as recommended by Wiegel et al. (2019) and Boas et al. (2019). It

also underlines that voluntary immobility—boosted by positive bonds to specific places—may bolster a population's resilience to the disruptive forces of environmental variability. As such, the potential to stay immobile—or *immotility* (Ferreira et al. 2017)—and the potential of immobility as an adaptation strategy should be explored. Research on environmental (im)mobilities should fully embrace the local context regarding place attachment, risk perceptions, subjective adaptive capacity, (im)mobility aspirations, and (im)mobility capabilities.

In contexts of environmental changes, being able to stay in place may help individuals to use and develop place-specific knowledge or to cope with risks through place-based spiritual practices (Farbotko and McMichael 2019). Studying voluntary immobility and *immotility* helps to avoid "mobility fetishism" (Canzler et al. 2008, 2) and to consider that for some populations, migration is not a viable adaptation strategy. The "migration as adaptation" narrative has recently received criticism within the environmental mobilities literature since it may put "the onus on people to move, rather than supporting them in situ" (McNamara et al. 2018, 112), and there is still a lack of empirical studies showing that migration may function efficiently as a satisfying adaptation strategy (Upadhyay and Mohan 2017). Migration may threaten people-place bonds and personal aspirations.

More broadly, looking at the place attachment-adaptation nexus through place identity, place dependence, social bonding, and biophysical bonding may help to study how populations perceive and cope with environmental changes. Qualitative studies are needed in order to understand what populations are attached to, value, or aspire to in contexts of environmental variability. Exploring the "power of place" (cf Sebastien 2020) to keep individuals immobile and make them engage in pro-environmental behaviours has profound implications for the implementation of meaningful in-situ adaptation strategies all over the world.

6. 3. CONCLUSION AND PERSPECTIVES

6.3.1. Conclusion

Article 4 brings attention to the importance of addressing voluntary immobility in the context of disaster risks. Studies on environmental mobilities increasingly recognise that even in the case of disasters risks, migration decision-making does not solely result from environmental conditions but also from multiple other factors. If we aim to assess the weight of environmental risks in migration decision-making, we should not overlook the complexity of the relation between humans and their environment, and the importance of this relation in migration aspirations. Our conceptual frameworks must integrate the array of spiritual, social, and economic factors which may encourage people to stay in place. Hence the need to listen to the populations concerned and to engage in protracted ethnographic studies. It is also crucial to reconsider and draw on existing migration theories, which highlight multiple factors influencing mobility or immobility decisions. For instance, a place threatened by disaster risks may also offer amenities and accommodate spiritual or social activities that are strongly valued. To shed light on such processes, the previous article includes concepts of human geography and environmental psychology such as *place* and *place attachment* for exploring the relation between people and their environment.

This ethnographic case study on the Bartang Valley enabled me to delve into human-environment bonds and place-based community solidarity and how these may act as catalysts for adaptive capacity. The ways individuals adapt to environmental variability and climate change in a particular place—and make decisions in the context of disasters which occur there—greatly depend on their commitment towards and bonds with that place, be it a street, neighbourhood, village, city, or valley. This is why Article 4 positioned place attachment, voluntary immobility, and adaptive capacity as mutually reinforcing phenomena. Examining this three-way relationship may foster future work on the environment-migration nexus and more broadly on climate change adaptation. Before turning to the second empirical article of the dissertation, I will briefly explore the historical and political dimensions of place attachment in order to contextualise and complement some of the arguments presented in article 4 and to put into perspective the relation between place attachment and (im)mobilities in the Bartang Valley.

6.3.2. Historical and political views on place attachment

The focus on attachment has revealed the different ways people may be tied to their dwelling place and make mobility decisions in light of the collective background of the community inhabiting this place. Here I want to reflect on a more historical and political view on place attachment, which would deserve to be elaborated further in future works. Place attachment is expressed differently by different generations, according to the historical contexts they have experienced. Although some of my interlocutors have only expressed a rather emotional and less cognitive attachment to *watan*, which was mostly created by a sense of familiarity and tradition attributed to the village where they have spent all their lives or most of it, elder generations express a more historical and political form of attachment. For Bartangi older generations, the highly negative experiences of Soviet forced relocations reinforce the love and respect for *watan*. In addition, nowadays, in a context where the State often feels geographically and socially distant to Bartangi lives, local identities and belongings are often voiced. Such identities are expressed in relation to one's village, valley, district or province and the specific environmental, social or cultural features of such places. The growing role of the international Ismaili network in the Viloyati Muxtori Kuhistoni Badakhshon also bolsters the expression of an Ismaili identity, often associated with place-specific traditions. The Aga Khan Development Network is engaged in the preservation of the Pamiri "culture" including musical and dance traditions[84]. This recent interest for local heritage and cultural activities from international Ismaili actors also helps to understand the current relationship between the Bartangis and their homeland. The AKDN's implication in the project of voluntary relocation of the residents of Basid to nearby Khabust (mentioned in article 4) and more generally in many projects of in-situ adaptation through disaster risk reduction also reveals an institutional support for the preservation of positive bonds with homeland in a context of disaster risks. In contrast, the Soviet State was mainly promoting a Soviet identity, the "friendship of peoples" (*druzhba narodov*) between different nationalities across the Union, and inter-republic movements through affordable transportation fares, and work and job opportunities (Sahadeo 2019). Most of my 'former

[84] See for instance: https://www.akdn.org/press-release/musical-arts-pamirs-university-central-asia-launches-series-pamir-music-and-heritage

Soviet' interlocutors in Bartang have accomplished their military services in places as far as Riga, Yekaterinburg or Vladivostok and some have enjoyed a rather easy access to education in Dushanbe, Kiev or Moscow. Nowadays, mobility opportunities are not so accessible and since the State feels distant, the Bartangis somehow cultivate their local particularities. The AKDN's initiatives often participate in the outreach and celebration of local traditions to which place attachment provides a solid foundation. Different political actors and historical contexts participate in making residents or citizens attached to different entities, on different geographical scales. Interestingly, the literature on emotions and affects in geographical studies have showed how emotions may be politically driven and have concrete impacts on people's experiences of space. For instance, Laketa explains that "emotion and affect shape and are shaped by politics, which makes this dynamic crucial in understanding the workings of power" (2016, 663) and her work demonstrates the impact of affects and emotions on the way individuals construct their relationships with places. Depending on the residents' ages and personal backgrounds, different types of place attachment coexist in Bartang, from more individual and emotional attachments to a place imbued by familiarity, which are often non-discursive and less cognitive forms of attachments, to more historical or political ones, based on experiences or opinions.

6.3.3. The place attachment of mobile individuals and households

As article 4 has intended to show, place attachment is not only expressed by sedentary individuals. Place attachments may be formed or re-created in contexts of mobility. They may foster mobilities, when individuals need to move, and sometimes to migrate, in order to maintain close links to one or multiple places. Such reflection on the connections between mobilities and place attachment is one of the central contributions of this paper and also constitutes a promising research direction for future works. Many young Bartangi men intend to build a house in the Valley and/or to start a family but need to migrate and earn money in order to achieve such goals. Their mobility may somehow be enhanced by their attachment to the place where they want to settle. For mobile individuals, multiple attachments may coexist, as the study of Di Masso et al. (2019) has showed. The Bartangis living in Moscow or Dushanbe for instance may develop attachments to their new place of residence while staying emotionally and virtually attached to Bartang, especially because often close family members remain in Bartang[85]. Leaving may also bolster attachment for the homeland since distance may create nostalgia from which feelings of attachment (re-)emerge.

For migrants who had bad experiences in Moscow, because their life conditions were hard, because they have experienced disrespectful and/or racist behaviours, or have been victims of theft for instance, the vision of the Valley as a peaceful and safe haven may be reinforced. In this case, attachment to a Valley that offers calm, feelings of protection and strong community solidarity is strengthened. For the migrants who had rather successful experiences in Moscow or elsewhere, the re-creation of attachments towards the new place of residence may

[85] The impressive photography and video project « In the cold » by Ksenia Diodorova (https://gonzo-design.me/inthecold), which reflects on translocal lives between the Pamirs and Russia, gives a sense of how attachments may be modified, re-created and or reinforced for mobile individuals and their family members.

be faster and easier. In Bartang, some residents, even elder ones who often seem more willing to preserve traditions, consider that one's *watan* is the place where they find the best opportunities and where the best living conditions can be ensured for household members. Place attachment is often complex in a context of migration and remains changing depending on individual (im)mobility experiences, life conditions, opportunities and aspirations. Such dynamic view on place attachment in context of mobilities and migration deserves further exploration.

6.3.4. Place attachment and small-scale mobilities

In Article 4, I also bring to the fore various kinds of *reversible* mobility patterns which play a role in the everyday lives of the Bartangis and which enable them to be mobile while remaining "based" in the valley. The economic activities of remote mountainous communities have long relied on vertical (from high pastures to lowland towns) and rural-urban mobilities. By emphasising the importance of circular mobilities and *reversible* mobilities in Article 4, I have attempted to highlight that even if many residents choose to remain in their village (not to migrate), it does not mean they are always immobile. Dwelling in the Valley and choosing to stay does not mean individuals don't want or need to circulate within the valley, province, or on wider spatial scales. While many individuals in Bartang don't aspire to migrate, their livelihoods are based on seasonal labour migration to Moscow or Dushanbe for instance and/or on frequent trips to Khorog to purchase products or sometimes sell some. Occasional visits to Vomar (the capital of the district of Rushon) or Khorog allow residents to access healthcare facilities, banking facilities and education and work opportunities. Most Bartangis alternate between immobility in the village and mobilities to cities where they access the products and services they need. Since different forms of mobility and immobility coexist, voluntary and involuntary (im)mobilities sometimes also coexist. The decision of individuals to stay in place (not to migrate) may be voluntary but these individuals may face involuntary immobility when they are occasionally unable to travel to the places they need to go to.

Rural-urban mobilities to and from the Bartang Valley are impacted by environmental hazards such as floods from lakes or rivers, mudslides, or landslides. Given the increase in hydrological hazards as a direct consequence of glacial melt, the frequency of these hazards is projected to rise in the near future. The resulting effects on mobility infrastructure and vehicles may decrease accessibility to mountainous areas and further isolate communities by reinforcing existing socioeconomic vulnerabilities. The next article explores how the highway into the Bartang Valley is affected by environmental hazards and more broadly what causes its low accessibility. It examines the occasional inability of residents to travel, how they navigate harsh mobility conditions, and the practicalities of rural-urban mobilities. While Article 4 was more concerned by (im)mobility aspirations, Article 5 focuses on mobility potentials, practicalities, and obstacles. After an analysis of voluntary immobility, we now turn to situations of involuntary immobility in order to show how these contrasting experiences of immobility coexist for the Bartangis.

7. MOBILITY DISRUPTIONS AND INVOLUNTARY IMMOBILITY

7. 1. INTRODUCTION

Preliminary fieldwork trips to Tajikistan's Pamir Mountains revealed that disaster-induced road disruptions cause significant mobility difficulties for the general population and, more specifically, for residents of the Bartang Valley. The only highway there is periodically impacted by rockslides, landslides, and seasonal avalanches and floods. Initial observations of these hazards led me to examine the material aspects of mobilities and the ways residents deal with disruptions. This focus on mobility infrastructure—including roads as unstable entities, and vehicles—has helped me to examine the ways residents access mobility.

Disaster-induced road disruptions lead to involuntary immobility for the population of the Bartang Valley, which often severely impacts livelihoods. Frequent road disruptions threaten the general accessibility of a valley, village, or settlement and therefore deeply modify lifestyles and livelihoods. This issue has been examined by mobilities studies but has almost received no attention from the literature on the effects of climate conditions on mobility. Only recently has the literature on "environmental mobilities" recognised the value of incorporating a wide array of mobility patterns—including immobility and mobility disruptions—into research frameworks.

For now, and especially at the time Article 5 was written, interest in immobility within environmental mobilities studies relied almost exclusively on case studies of *trapped populations*, or populations unable to move in order to escape post-disaster contexts. Article 5 attempts to bring complexity to the notion of immobility and to highlight the root causes of involuntary immobility by exploring mobility potentials. What makes people unable to travel? Individuals may become involuntarily immobile when their dwelling place is inaccessible, when they personally lack mobility skills, or if they can't access available mobility options. On this basis, Article 5 suggests a theoretical focus on *motility*, a concept which sheds light on the actual causes of mobility disruptions and involuntary immobility in the Bartang Valley. The concept of motility helps to re-embed disruptions into their sociopolitical context and to delve into the Bartangis' appropriation of (im)mobility. The theoretical foundations of the article, which focus on immobility and motility, also suggest novel research directions for studies on the relation between environmental conditions and (im)mobility.

Chronologically, the writing of this paper was concomitant with a wider theoretical reflection by environmental mobilities scholars on the inclusion of (im)mobility patterns within our frameworks and on the theoretical value of the mobilities paradigm. Article 5 adopts this perspective on mobilities. The symposium "Migration, mobilities and environmental change" organised by Dr. Boas (Wageningen University, the Netherlands, June 6–7, 2019) played a central role in constructing the research design.

7. 2. ARTICLE 5: UNDERSTANDING INVOLUNTARY IMMOBILITY IN THE BARTANG VALLEY OF TAJIKISTAN THROUGH THE PRISM OF MOTILITY[86]

7.2.1. Abstract and keywords

While in many parts of the urban world the variety of means of transport increase, in the rural valleys of Tajikistan, people still have limited access to any means of transport. As such, local communities may easily get stranded and isolated from food markets and healthcare facilities. Based on ethnographic fieldwork in the Bartang Valley of the Autonomous Kuhistoni-Badakhshon Province of Tajikistan, this paper aims to understand how situations of involuntary immobility emerge in the region. On the theoretical level, the paper demonstrates the value of motility as a conceptual term to explore why people face involuntary immobility. In a context of physical remoteness, environmental variability and dilapidated infrastructure, new facets of the concept of motility are revealed, notably on the ways inhabitants navigate through adverse mobility conditions. The paper is articulated around the three dimensions of motility: accessibility, mobility skills and appropriation of mobility. Results show that most people in Bartang have a low motility due to the lack of vehicles, frequent environmental hazards and the demanding set of competencies required to be mobile. This low motility induces involuntary immobility which is more commonly experienced by particular groups but affects most inhabitants when the road is closed.

Keywords: Motility; immobility; accessibility; trapped populations; Pamirs; Tajikistan

7.2.2. Introduction

A famous local saying goes, '*Bartang naraw, ke roh-i Bartang khatar ast!*' ('Don't go to Bartang, because the road to Bartang is dangerous!'). Travelling in the Bartang Valley means encountering the unexpected and the same could be said regarding most valleys of the Autonomous Kuhistoni-Badakhshon Province of Tajikistan (or VMKB)[87] of Tajikistan, especially those outside the Pamir Highway (the main artery of the province). Sections of the roads are frequently blocked by rockfalls, landslides, and avalanches in winter and floods in summer. Vehicles, most old, worn and in a bad state, do not always manage the chaotic trip without pauses for repairs along the way. A blocked road can mean a waiting time ranging from a few minutes to several months. These factors, when operating in tandem, lead to moments such as that experienced in February 2015. While the region was receiving unusually heavy snowfalls, my local travel companions and I became stranded on the road from Khorog to Ishkashim, in the village of Nishusp. What at first seemed to be a short standstill turned into a

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[87] VMKB stands for Viloyati Mukhtori Kuhistoni Badakhshon, which can be translated as 'Autonomous Province of Mountainous Badakhshan'. Although the region is very often referred to as GBAO which stands for the Russian Gorno-Badakhshanskaya Avtonomnaya Oblast (Горно-Бадахшанская автономная область), a deliberate choice has been made to use the Tajik version of the name of the region. Locals often name their administrative region only Badakhshon or 'the Pamir' (Pomir) which corresponds to the name of the mountain range occupying most of the territory.

week-long intermission. Two years after that event in January 2017, my local interlocutors advised me that the road conditions were extremely rough in the region due to the heaviest snowfalls locals had ever seen. These conditions produced a scarcity of resources, creating health issues and forcing some people to walk long distances in harsh conditions. Several decades of 'Moscow provisioning' (the Soviet system of supplying basic goods to the remotest areas of the USSR (Reeves 2014, 114)) has made the region greatly dependent on basic goods coming from other parts of the country and from abroad (Blondin 2019). The result is that the Pamiris are now very dependent on mobility to cities for necessary products and services. However, their motility has declined with the rise of fuel prices and the disuse of helicopters for private purposes.

In Bartang, my research has focused primarily on mobilities from rural communities on the move towards the town and the city where basic goods and banking and healthcare facilities are available. These are services that are not frequently accessed yet serve key needs of individuals. They are therefore paramount in local livelihoods and consequently involuntary immobility may rapidly have negative outcomes. As my preliminary observations suggested that many inhabitants frequently find themselves stranded and given the importance of rural-urban mobilities, my aim is to understand how situations of involuntary immobility emerge in the Bartang Valley and if some social groups are more specifically at risk of becoming physically trapped.

The issue of 'trapped populations' has been addressed mainly by environmental mobilities studies, i.e., studies on the environment-(im)mobilities nexus including 'movements shaped by environmental factors' (Boas et al. 2018, 107). The notion of 'trapped populations' refers to people unable to move from areas exposed to severe environmental risks (Foresight 2011). Although the notion sheds light on the issue of involuntary immobility, it does not allow the analysis of its root causes (see Ayeb-Karlsson, Smith, and Kniveton 2018). Thus, this paper draws on the concept of motility (mobility potential) and claims it is a fruitful tool in order to address the root causes of involuntary immobility and to offer a better understanding of reasons why people become trapped. Because I consider immobility and mobility as relational, I look at mobility in order to reflect on immobility. Thus, I analyse people's motility (potential for mobility) and, by extension, the possibility of this potential being so low that people cannot move at all. The rationale for this paper is suggesting and mobilising the concept of motility to address the issue of 'trapped populations'/involuntary immobility. This research also shows that using the concept of motility in contexts where involuntary immobility situations are frequent reveals new facets of the concept such as mobility rituals or beliefs that help people to navigate through harsh mobility conditions. By introducing this conceptual perspective, this article aims to provide a more robust understanding of involuntary immobility.

The following sections will introduce the research context, offer an overview of studies on human mobility in Central Asia and explain the use of the concept of motility and its relation to involuntary immobility. Then, the results section offers an analysis of the Bartangis' motility by examining their access to mobility, their mobility skills and their appropriation of mobility, all demonstrating the link between low/fluctuating motility and involuntary immobility. Finally, the concluding part provides a discussion of the concept of motility in relation to involuntary

immobility, and highlights its implications for the socioeconomic development of the VKMB of Tajikistan.

7.2.3. Research Context

7.2.3.1. Accessibility of the Bartang Valley

The Bartang Valley is a valley in the Pamir Mountains located in the centre of the VMKB in the district of Rushan. Approximately 25,000 people live in the district and about 6,500 in the valley. My research 80 focuses on the Central and Upper Bartang Valley (Basid *jamoat*[88] and Savnob *jamoat*) where approximately 4′500 people live[89] (see Fig. 18). This valley is considered one of the most remote in Tajikistan since the only road into the Valley is in a particularly bad state. Construction of the road began in the 1950's during Soviet times; however, some sections of the road were only completed in the mid-1990s and still have not been asphalted. The road allowed the connection of the Valley to the Soviet 'provisioning system' of goods and services (see Reeves 2014). Under this system, helicopters were routinely deployed to supply provisions in locations that the road could not reach. The population of the valley suffered severely from the collapse of this Soviet provisioning system and now faces serious issues concerning food and energy insecurity (Bliss 2006; Blondin 2019; Kicherer 2019) and access to healthcare.

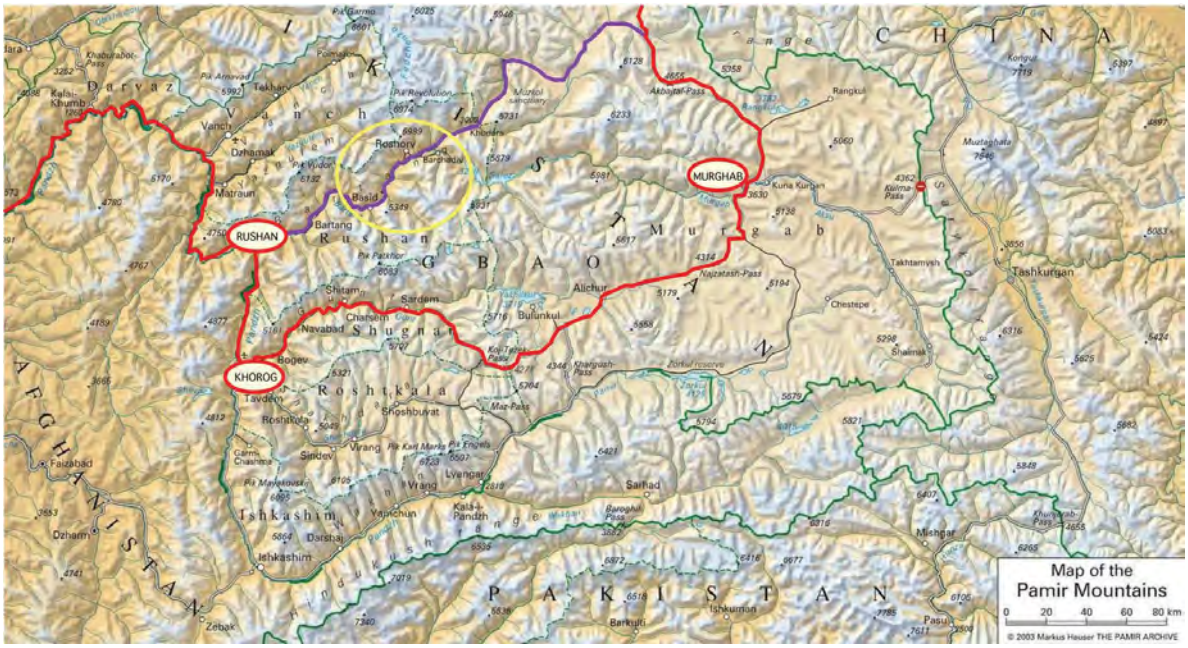

Figure 18: Contextual map showing the zone where the interviews were conducted (yellow circle), and the three administrative centres of Rushan, Khorog and Murghab. The M41 (Pamir Highway) is indicated in red and the Bartang road in purple. Map adapted from Markus

[88] In Tajikistan, a *jamoat* is a third-level administrative division. The *viloyat* (province) is subdivided in *nohiyaho* (districts), themselves subdivided in *jamoatho* (plural for *jamoat*).
[89] These figures have been obtained by merging different information gathered in the field and are consistent with Bliss (2006) who cites the 1997 figure of 24,817 people in the Rushan district; Kicherer (2019) who cites 3000 inhabitants for the Savnob *jamoat*; and a 2017 document given by the Mayor of the jamoat which cites 1327 people for the Basid *jamoat*.

Hauser's 'The Pamirs – a tourist map of Gorno-Badakhshan, Tajikistan, and background information on the region', http://www.pamirs.org/maps.htm, last accessed on October 29th, 2019.

The collapse of the USSR left much of the infrastructure in a dilapidated state due to a lack of maintenance. Moreover, road infrastructure is under constant threat of environmental hazards because of its topography and the proximity of glaciers (Blondin 2019). Bartangi households practice small-scale subsistence farming (wheat, potatoes, carrots, onions, apricots, cherries, mulberries mainly) and herding (sheeps and goats) but are still heavily dependent on the rest of the country in order to access basic goods (tea, sugar, flour, rice, pasta, cooking oil, etc.) and services (hospitals, banks, and universities, for example). Government vehicles occasionally bring food products to be sold in the Valley. Except for schoolteachers, retailers, doctors, taxi drivers and retired people, few people living in the Valley have a regular source of income. In every village there is a school (offering First Grade (6 years old) to Eleventh Grade (17 years old) education) and a dispensary (referred to as a 'hospital' but under-equipped and serving more as a dormitory). In general, the population of the Valley relies squarely on remittances sent by relatives who have migrated to other parts of the country and to Russia (Thorez 2014). According to the figures provided by the *rais* (the Mayor), 186 of the 1327 inhabitants[90] (12,3%) in the Basid *jamoat* were living in Russia or in Dushanbe in 2017.

Basic products are bought predominantly in Khorog, the administrative centre of the autonomous region. Some inhabitants travel to Khorog several times a year to stock up while others buy from local retailers (a role typically performed by taxi drivers) in their village. Local retailers sell their products at higher prices to cover transport costs but also commonly extend credit. People are also dependent on towns such as Vomar (the capital of the district (*nohiya*) of Rushan) and cities to access advanced healthcare, banking facilities, higher education and paid jobs. Thus, the more mobile individuals in the Valley are typically 'shared taxi' drivers and retailers, people who work seasonally or who have family ties in cities, and students who return home twice annually for winter and summer holidays. Although few people regularly travel outside the Valley, local livelihoods rely on mobility to the main city. However, these rural-urban mobilities as well as situations of involuntary immobility have not much been explored in the region, as next section will demonstrate.

7.2.3.2. Mobility studies on Central Asia

Rural (im)mobilities in Tajikistan have received rather limited scholarly attention. Studies on human mobility in the Central Asian region have particularly focused on post-Soviet territorial restructuring (Reeves 2014; Thorez 2014), labour migrations (Thorez 2016; Nikiforova and Brednikova 2018) and their consequences for those who remain (Isabaeva 2011; Reeves 2011). In the mountains of the Pamirs and neighbouring Karakoram, researchers have also addressed issues of disaster-induced road disruptions (Kreutzmann 2012; Cook and Butz 2011, 2015). More specifically, Cook and Butz have explored the gendered nature of mobility in the mountains of Gilgit-Baltistan in Pakistan and how the accessibility of the area fluctuates

[90] Migrants were still registered as inhabitants.

with climatic events and how people might be involuntarily immobile (Cook and Butz 2015, 2017). In the Pamirs of Tajikistan, mobilities studies commonly focus on flows at a large scale without paying particular attention to how people actually practice and appropriate mobility. The work of Mostowlansky is an exception since the author takes the 'highway as a field' (Mostowlansky 2017, 3) for his research and demonstrates the difficulties and challenges of travelling along the Pamir Highway of Tajikistan (Mostowlansky 2014, 2017). However, to my knowledge, the specific issue of involuntary immobility has not been studied in Tajikistan.

In summary, most studies tackling mobilities in the mountains of Tajikistan focus rather on infrastructures, international migrations and borders than on the way people are able (or not) to be mobile under different circumstances. However, beyond these established research foci it is crucial to address situations of involuntary immobility in order to understand how people might become stranded in contexts of environmental disasters, food scarcity or health emergencies with the aim of alleviating these issues. This paper focuses on the Bartang Valley in the Pamirs; through this geographical context it aims to address the regional mobility research gap by examining people's mobility potential and by taking 'the actual fact of movement seriously' (Cresswell 2010, 18). The following section will demonstrate why the concept of motility has proven to be a relevant tool in understanding the factors leading to involuntary immobility and to examine the way people access and appropriate mobility options in hazardous terrains.

7.2.4. Motility as an approach to limited mobility and involuntary immobility

The concept of motility is a productive and useful way to explore factors shaping people's mobility potential and to understand causes of fluctuation. In this section, I suggest motility as an approach to help address the root causes of involuntary immobility and trapped populations' issues.

7.2.4.1. The concept of motility

Kaufmann and colleagues have conceptualised motility and have later operationalized it in different case studies (Kaufmann, Bergman, and Joye 2004; Flamm and Kaufmann 2006; Kaufmann, Dubois, and Ravalet 2018). In Kaufmann, Dubois and Ravalet's (2018) paper, motility is defined as a 'set of characteristics that enables people to be mobile including physical capacities, social conditions of access to existing technological and transportation systems, and acquired skills (e.g. training, driver's license, and international English for travel)' (Kaufmann, Dubois, and Ravalet 2018, 199). Motility is conceptualised as depending on, first; the conditions of access to mobility (mobility options and conditions of access), second; competence and skills that allow one to be mobile (physical ability, specific knowledge, organisation skills), and third; the appropriation of mobility based on one's plans and aspirations (Kaufmann, Dubois, and Ravalet 2018). In this paper, I examine these three axes of motility in order to provide insight into the Bartangis' potential for mobility.

Inspired by Kaufmann, Dubois, and Ravalet (2018), I regard motility as a potential and not as an ability. If motility is defined as an ability, it implies that a person is very motile or is not motile at all no matter the context; but if motility is a potential then a person's motility fluctuates depending on the context. As an example, an individual may be very motile in a city centre because they are able to use public transportation but not very motile in a place where neither

public transportation is available, nor can they drive or walk long distances. Kaufmann, Dubois and Ravalet (2018, 200) state that 'motility is inherently situated in and connected to a given space, which offers a range of possibilities in terms of mobility, thus defining its hospitality potential'. I will use the notion of 'hospitality potential' in this paper when referring to the existence of networks (roads, paths, communication networks); specifically the condition of these networks as shaped by environmental hazards impacting their access, the manner in which they are managed, and also access to private automobiles as public transport is inexistent in the Bartang Valley. This 'hospitality potential' plays a substantial role in the research since much emphasis is given to the fluctuating accessibility of the Bartang region and as to how mobility potential is turned into actual mobility by its residents.

Although the concept of motility has been criticised for putting aside societal mobility in favour of individual mobility (Doherty 2015; Hayfield 2018) several authors have studied the motility of particular groups of people (for instance, the low-income population of a social housing estate [Ureta 2008] or Faroese women [Hayfield 2018]; see also Kaufmann 2014 for more examples). In present research, the relative homogeneity of the Bartangis' socioeconomic situation allows for the study of motility at a collective level. Nevertheless, it was assumed that differences were to be noticed between particular groups of people within the Valley according to physical ability and personal responsibilities. For instance, preliminary observations suggested that women in the Bartang Valley were more prone to immobility than men because of their domestic responsibilities.

Few authors have used the critical mobilities literature to address human (im)mobilities in rural mountain areas of the 'Global South'. Cook and Butz's work in Northern Pakistan is significant in this regard (Cook and Butz 2016). They show that situations of strandedness provoke serious humanitarian and social issues in their research area and they develop the concept of mobility justice in this context. The mobility justice perspective, later strengthened by Sheller's work (2018), aims to tackle issues of power, inequalities and justice in terms of mobility, and motility is one of its core concepts. In this vein, this work focuses on mobility difficulties including involuntary immobility, which may have adverse consequences on access to basic goods and services and on socioeconomic integration in the Bartang Valley.

In remote rural areas anthropological insights on motility may also reveal different values ascribed to (im)mobility according to social organisations and beliefs, and different sets of mobility competencies and habits. For example, looking at mobility rituals may offer more nuanced understanding as to how individuals appropriate adverse mobility conditions through long-established cultural behaviours. Extending the reach of the concept of motility to rural, remote and hard-to-reach areas where involuntary immobility is a paramount issue, is one of the conceptual rationales of this paper. More specifically, the present paper uses motility as a way to address the root causes of involuntary immobility, as the next section will explain.

7.2.4.2. Motility and involuntary immobility

A limited motility may lead to situations of involuntary immobility, i.e. situations when a person desires to move but is unable to do so because they lack access, skills or the means of appropriating mobility. During my first visits to the research region I came across people who could not travel of their own volition because no vehicle was available or the road was closed.

Therefore, my research took account of the fact that some Bartangi face situations of involuntary immobility or, rather, are unable to leave a place when needed. As Franquesa (2011, 1028) states, 'power is not so much located in the pole of mobility, as an intrinsic attribute of it, but rather in the capacity to manage the relation between mobility and immobility'. This capacity of choosing to move or not and of being able to move when needed may be explored through the concept of motility.

Regarding involuntary immobility, the concept of 'trapped populations' has recently emerged in environmental studies and concerns people 'unable to move away from locations in which they are extremely vulnerable to environmental change' (Foresight 2011, 9). My research was inspired by this concept since in the Bartang Valley people can be trapped in locations where they are vulnerable to environmental risks and food insecurity (Blondin 2019). However, the notion of 'trapped populations' has been criticised because 'in most instances, vagueness serves to disguise any precise determinations of who may be "trapped" and what they may be trapped by' (Ayeb-Karlsson, Smith, and Kniveton 2018, 557). Although particular attention is given to economic difficulties to explain the forced immobility of the 'trapped populations', some authors have pointed to the need to consider immobility in a multifaceted way: immobility may be chosen but also may result from social, health, political and geographical constraints (Zickgraf 2018). From this perspective, considering people's motility could help to address the different factors leading to unmotility (from the adjective unmotile used by Kaufmann, Dubois, and Ravalet 2018) -the inability to move- and to experience involuntary immobility. Building from these arguments, this article argues that motility is a relevant tool to address what people may be 'trapped by'.

In the Bartang Valley, as elsewhere, immobility is relational and relative (Adey 2006; Harker 2009; Cresswell 2010) to other people's mobility but also to road conditions and weather, for example. Not all people hold the same capacity to move and be mobile; individual motility fluctuates over time, depending on conditions of accessibility (as noted earlier, I consider motility as a potential -depending on accessibility- and not only as an ability) or on personal plans and responsibilities. Therefore, the mobility- immobility nexus may be explored through a social dimension: some individuals are more able to be mobile than others, and the mobility of one individual may limit the mobility of others. For example, different studies have demonstrated how mobility patterns are gendered because of differentiated responsibilities or because of control over women's mobility (Cook and Butz 2017; Ingham, Islam, and Hicks 2018). Immobility also fluctuates over time and, as such, a person may experience involuntary immobility intermittently. In this sense, I position the mobility-immobility nexus present in this research as rhythmic, seasonal and tidal because of the manner in which people alternate between moments of mobility and moments of immobility (Cresswell 2010)[91]. Involuntary immobility may depend on the three dimensions of motility (mobility options and conditions, mobility skills and appropriation of mobility). If people are involuntarily immobile it is because they are (maybe temporarily) unmotile or have an insufficient motility, whether because no mobility option is available (a lack of private transportation for example), because of adverse mobility conditions (when the road is closed due to an environmental disaster), because one

[91] I will refer to this nexus in the paper as '"(im)mobility"'.

lacks competence to walk a long distance or because they cannot plan a journey due to the burden of domestic responsibilities. Thus, motility as a potential develops an understanding of who is more able and more likely to move or on the contrary prone to becoming trapped. The following section will show how the three dimensions of the concept were studied through different qualitative methods in Tajikistan.

7.2.5. Methods

This paper draws on a plurality of methods deployed during field trips in the Bartang Valley at different times of the year between 2015 and 2018. This section presents my methods inspired by non-representational theories that emphasise practices, materialities and embodiments (see Thrift 2008; Merriman 2014).

The idea of research focusing on involuntary immobility in the Bartang Valley was born out of several trips in the region where I myself experienced situations of strandedness or observed people encountering similar experiences. I have subsequently explored various mobile methods on the field such as co-itinerance (following people on the move) and participant observation of trips and everyday life in local homes. This is in order to share not only (im)mobility situations with participants but also to observe practices, performances and the state of vehicles and infrastructures. Although I recognise that mobile methods should not be considered a perfect means 'to move, be, and see with' (Merriman 2014, 176) people, they assist in comprehending embodied (im)mobility practices and materialities, serving as a reflection point on my own subjective sensitive experiences in a feminist geography perspective (see England 2006). Furthermore, mobile auto-ethnography has allowed me to consider my own positionality during (im)mobility situations and to approach various components of motility 'from one embodied location' (England 2006, 289).

First, useful information on the hospitality potential (mobility options available and mobility conditions) and mobility skills was gathered during journeys to the fieldwork location (see D'Andrea, Ciolfi, and Gray 2011). Mobile autoethnography and co-itinerance helped to understand mobility conditions and options available in the region, the skills required for mobility, and the physiological aspects of mobility (Larsen 2014). In the Bartang Valley these methods allowed me to examine and feel the state of both cars and roads. Co-itinerance and participant observation whether on foot or in shared cars also led me to observe people's movements and social interactions during a trip (see Pink 2008), as well as situations of involuntary immobility (for instance, when the road was closed or considered too dangerous) and the consequences for those concerned.

Secondly, I documented my research through personal images and videos taken on the road and with those produced by local informants. These audiovisual objects facilitate a 'thick description' of mobility movements (Spinney 2011, 167) and create a sense of '"feeling there" when you can't be there' (Spinney 2011, 163). Videos 'affect primarily the spectator's senses, engaging him physiologically' (Kracauer 1961, 158) and highlight the 'sensuousness of the road' (Urry 2007, 125). Videos therefore enable examination of the bodily effort mobility necessitates and offer a reflection on mobility skills. Sometimes, videos (both edited footage and simple rushes) were also watched and discussed collectively with research participants,

giving them a space to reflect upon their mundane mobility movements. This process helped to understand how participants assessed which skills were necessary depending on accessibility conditions and how they appropriate mobility.

Mobile methods were completed alongside semi-structured interviews about (im)mobilities in order to deepen my understanding of certain practices. Sixty-five interviews were also conducted in the Upper Bartang Valley, in the villages of Basid (and the nearby hamlet of Dehloq), Chadud, Roshorv, Savnob and Rukhch with twenty-four women and forty-one men. The participants were between seventeen and eighty years old and were selected according to their availability and willingness to participate. Interviews were conducted in Bartangi language with the help of a translator. Notes were taken during interviews rather than recordings, except for 10 interviews, which were video-recorded and transcribed subsequently. Discussions were structured around access to basic goods and services within the respondents' households; mobility experiences in the Valley, to the city, abroad; and aspirations for mobility. With middle-aged and older participants, the interviews revolved around the evolution of the accessibility of the Valley between the 1950s and the present. These interviews also included mobility biographies detailing how people have moved at different stages of their lives and in which way. In-depth interviews about mobility practices enabled insight into how people reflect upon their mobility skills and value and appropriate mobility (the 'appropriation' dimension of motility). Giving space to the interviewees to reflect on their mobility also helped to assess how much the concept of motility resonates within a particular fieldwork location. I also had uncountable informal discussions with the inhabitants (in Tajik and English, without a translator) and notably with hosts who welcomed me inside their homes. These discussions as well as the observation of everyday life were central to my understanding of the Bartangis' values, rituals and beliefs and, therefore, the way in which mobility is practiced and appropriated. This plurality of methods helped to comprehend how situations of involuntary immobility emerge, through the concept of motility in its three dimensions.

7.2.6. The three aspects of motility in the Bartang Valley

In order to understand the varied and uneven mobilities of the Bartang Valley and the consequences of this for people becoming trapped, this results section will present a discussion around the three dimensions of motility. The first subsection examines the 'hospitality potential' of the Valley, defined by mobility networks and means of transport available. I will then focus on mobility skills in order to explore the set of competencies required to be mobile in the Valley. Lastly, I will analyse how people appropriate mobility according to their plans and aspirations.

7.2.6.1. Access to mobility: the low 'hospitality potential' of the Bartang Valley

In this subsection, the exploration of the hospitality potential of the Valley will lead us to consider motorised mobility options in the Bartang Valley, frequent road closures and telecommunication means as another way of being mobile. A very short film that I have made, available at the following address, will help the reader to perceive the materiality and sensuousness of the Bartang Road: https://vimeo.com/302454293

-A limited motorised mobility

The Bartang Road was completed in the mid-1990s. Much of the road is still not asphalted and the parts that are, are deteriorating. The Bartang Road is connected to the M41 (the Pamir Highway), built in the 1930s which links Dushanbe, the capital of Tajikistan, to Osh in Kyrgyzstan. During Soviet times, only public vehicles (delivery trucks for supplies, mail trucks, etc.) came to Bartang. As Daler[92], a man from Roshorv in his late forties, spoke of the era:

> There were no personally-owned cars, only the car of the Post Office came here. If you reached Basid on time you would go with that car [to Khorog]. If you were late then you would go on foot and perhaps you could find later a car from the Post Office or the sovkhoz[93].

At present the opposite is true; the majority of cars in the Pamirs are privately owned with the exception of the government trucks used to deliver goods to remote villages. The majority of the cars on the roads of the Pamirs are four-wheel-drive vehicles or well-worn, second-hand Soviet UAZ jeeps bought in Dushanbe. In the Upper Bartang, iconic Soviet off-road vans (locally known as '*tabletka*', Russian for 'tablet') and Kamaz trucks are also still used. Smaller and slower vehicles, such as newer Chinese minivans ('*Tangem*'), which are cheaper and the use of which is growing in the Pamirs, cannot withstand the conditions of high altitudes and rough roads.

Despite private vehicles being present in rural communities, ownership is limited: in Basid (and nearby Chadud) where approximately 750 people live, only six jeep-type vehicles (with seven or eight seats including the driver's) make the Basid-Khorog trip. In some Bartangi villages (such as Bopasor in Upper Bartang), there are no private vehicles. Cars, when present, are typically used as 'shared taxis' and leave when full with some cars from Khorog to Bartang used instead to transport products. This limits the number of seats available for passengers and in turn reduces the car accessibility of the Valley. The weak motorisation rate can compel people to cancel or postpone their trips: the number of seats being as limited as they are means that 'some move in such a way that others get fixed in place' (Cresswell 2010, 21). My experiences in the Bartang alternated between waiting long hours for a car to fill up or missing the sole car ride available on the day because seats had been booked in advance.

Another difficulty is that car trips are still expensive for many people. Most Bartangi limit their trips to Khorog because of the price ($5 (US)/50 somoni from Basid, 6 USD (US)/60 somoni from Roshorv). These prices are given context when considering figures from the World Bank, detailing that in 2014, 32% of Tajikistan population was living below the poverty line of 158.71 somoni a month, with Kuhistoni-Badakhshon being the poorest province of the country[94]. Moreover, it is difficult to acquire fuel in the Upper parts of the Valley where vehicles may become unusable because of a lack of petrol.

In summary, since the 1990s cars have made their way to Bartang but motorised mobility is far from accessible to all Bartangi all the time. Moreover, Soviet vehicles as well as parts of the road (i.e. key physical infrastructures for the region) are deteriorating. The low motorisation

[92] Pseudonyms have been used throughout.
[93] Sovkhoz (совхоз in Russian) were Soviet state farms.
[94] http://documents.worldbank.org/curated/en/160761467988919181/pdf/101278-REVISED-Box394821B-PUBLICTJK-ENG-FOR-WEB-REV.pdf.

rate indicates that not all Bartangi can plan motorised trips at their own discretion, which reduces their motility. This is particularly true because of frequent road closures that prevent all forms of motorised mobility and keep many immobile.

-Frequent road closures

The physical accessibility of the Bartang Valley fluctuates over the course of the year. Road closures are frequent, be they because of geo-physical events such as rock falls or landslides or due to weather events such as snowfalls, avalanches or river flooding (see the short film mentioned above; Mostowlansky 2014; Blondin 2019). These hazards make mobility practices uncertain in the region. For instance, during the winter of 2017, the Bartang Road was impassable (for motor vehicles) for approximately two months due to snowfalls and avalanches, and for a further month (in some parts of Upper Bartang) in the summer due to floods. Due to the protracted road closure people who needed to reach the city undertook long journeys on foot. Such is the example of sixty-two-year-old Saradbek who in early May walked from Basid to Vomar in two days and returned with twenty-five kilograms of food products on his back.

Road clearance and repairs are performed by the State organisation 'D.E.U.' (Russian acronym for 'Road Operation Management'). However, employees are few and not well equipped in the Bartang Valley. Consequently, local individuals usually do 'not to wait for the state' (see Karrar and Mostowlansky [2018, 71]) in the case of remote villages of Shimshal in Gilgit-Baltistan, Pakistan) and gather for volunteer work, locally known as *ashar*, to deal with road closures on their own accord whenever possible. The *khalifa* (local spiritual leader) of Roshorv explained during a discussion in August 2017 the degree to which people of the Bartang were in charge of their community and, consequently, of the accessibility of their valley: 'This is our responsibility' he said. Several times I have encountered groups of men repairing parts of the Bartang road on their own initiative and voluntarily (see the short film mentioned above). Despite these efforts, this community-led maintenance is not enough to ensure that the road is useable throughout the year, constituting an additional factor of frequent involuntary immobility.

-The development of telecommunications

Telecommunications are also an important feature of the 'access' dimension of motility (Kaufman, Bergman and Joye 2004) and their growing use in the Bartang is changing the 'virtual accessibility' of the region. The use of mobile telephones and the internet (mostly limited to 2G outside of Khorog) is recent in the Pamirs and has not yet reached all areas. As research participants relayed, in the Upper Bartang mobile telephone networks have only been in use since 2015. Before this period only one or two Soviet radiotelephones were the available forms of telecommunications per village. The growing use of telephones and of the Internet in the Valley increases its 'virtual accessibility' and fundamentally changes the lived experience of remoteness and of physical immobility: 'In terms of roads we are isolated, but now we have phones!' explained Pochanbe, a sixty-seven-year-old man from Roshorv. Other interlocutors underlined the role of telecommunications in alleviating emergencies following environmental hazards and physical separations with mobile family members. However, the network is still not available in all villages and the limited electricity system also hampers the use of mobile telephones.

To summarise, the range of possibilities in terms of mobility is extremely limited in the Bartang Valley and roads and vehicles have been partly deteriorating since the collapse of the USSR. The emergence of motorised mobility has brought about time-space compression but this compression is cast unevenly through an extremely low rate of motorisation rate and road infrastructure undergoing frequent disruptions. Walking is thus the only guaranteed mobility option in the case of road closures. The wider use of modes of telecommunication alleviates the burden of involuntary immobility but the network is not consistently available across all areas at any time so virtual accessibility is also subject to fluctuation. In total, the limited mobility networks and the frequent adverse mobility conditions produce a low 'hospitality potential' in the Valley. This suggests a limited motility for the Bartangis who cannot be mobile whenever they wish.

7.2.6.2. Mobility competence: a skill-intensive mobility in a rugged terrain

The second aspect of motility relates to the competence and skills required to be mobile. This section will explain how physically demanding moving in Bartang may be, and the degree of organisation required to prepare a trip. This implies that many people may frequently become stranded. I will also show that protection rituals form part of a wider set of competencies practiced by the Bartangis in order to navigate through adverse mobility conditions.

-A physically demanding mobility

Walking at high altitude in rugged terrains requires physical skills, especially when people must traverse long distances in adverse weather conditions, their backs laden with heavy loads filled with products. An excursion from the uppermost villages of the Bartang Valley to Vomar (district capital) can last as long as three days (see Table 4) and only the most physically capable can undertake such an arduous journey. Many of the oldest research participants regretted that they could no longer walk such long distances. Interestingly, there is a generation gap between Bartangi regarding long-distance walking. The elderly Bartangi who have been used to hiking and traversing fast-flowing rivers during their youth often proudly exclaimed how much stronger and fitter their generation was than the youth of today[95]. Many of my interlocutors are of the opinion that 'Soviet times have made people lazy' since during that period the Valley was supplied with basic products and services with helicopters sometimes available to travel to cities. In the same vein, even though many people consider car mobility as a substantial improvement to their lives, others consider this as having made people more passive and mobility dependent on factors intrinsic to the operation of a vehicle, such as road conditions and the availability of cars and fuel. This suggests that different generations in Bartang have accumulated 'a varied range of personal aptitudes for mobility' (Flamm and Kaufmann 2006, 177) and are not exposed to involuntary immobility equally.

Sitting in a car in the Bartang also demands physical abilities. During shared trips I have frequently heard passengers complaining about headaches, nausea, leg pains, back pains, and the like, and I have met physically vulnerable people who relayed their avoidance of any trips because of road conditions and the stress this imparts upon their bodies. Urry (2007, 125) writes

[95] See Louknitski (1954, 219) for a particularly vivid image of the strong mountain-dweller in the Pamirs in the 1950s.

that, 'the car-driver dwells-on-the-paved-road and is not separated from its multiple sensuousness' and the Bartang passengers have similar sensuous experience of the car and the rugged road. Some of the elderly people I interviewed considered that they were too old to travel even by car given the local road conditions. Unexpected road closures sometimes force passengers to complete the trip on foot; such an instance occurred in July 2017 en route between Basid and Roshorv when we passed a group of travellers whose driver had turned back after discovering the road to be severely flooded. Some people had chosen to walk and others to wait. Since our driver decided to attempt to continue through the flooded section of the road, the group of stranded travellers asked our driver to take one of their children along with us. This highlights that the most physically vulnerable have a limited motility in such an unpredictable terrain and are more at risk of becoming stranded.

	Basid	Roshorv	Savnob	Khorog	Dushanbe
Distance to Vomar	70 km	110 km	125 km	70 km	540 km (via Kulob, the most used road)
Approximate travel time by car to Vomar	4 hours	7 hours	8 hours	1.5 hours	10 hours
Approximate walking time to Vomar	2 days	3 days	3 days	Generally not done. It is relatively easy to get a lift in a car along the Pamir highway (M41).	Not done nowadays.

Table 4: Summary table of the distances and travel time by car or walking (in the best conditions) between Rushan (administrative center of the Rushan district and meeting point of the Bartang road and the Pamir Highway a.k.a M41); Basid, Roshorv and Savnob (three villages under study); Khorog (administrative and economic center of the Kuhistoni-Badakhshan Province); and Dushanbe (national capital of Tajikistan). Travel times are approximative and were derived from my own travel experiences and research interviews.

-Organisational skills

The Bartangis also require organisation skills to prepare a car trip. The low motorisation rate in Bartang obliges people to plan a trip in advance in order to find a seat in a shared car and the traveller may have to negotiate a seat depending on the emergency of the trip. This forward-thinking planning becomes particularly necessary considering cars do not leave from villages everyday (especially in case of difficult road conditions). Booking a seat is generally done by phone but some households lack electricity or experience frequent power outages while others lack a telephone network, which may compel people to walk several kilometres in order to make contact with a potential driver (for instance in the village of Bardara).

But even walking in Bartang demands organisational skills such as knowing the way, landmarks and potential shelters. Although their importance may be declining, *warmoyen* (roadsigns), *ostanen* (shrines) and night caves are still visible along the road. They are key places to know about in order to organise a trip, to evaluate distances and to find directions or shelter.

The long, slow trips in the Bartang also demand considerable patience. The act of waiting also constitutes a value and an acquired skill. Patience and endurance are considered human virtues in the region (Ibañez-Tirado 2018). This cultural consideration helps contextualise how people in the Pamirs experience mobility uncertainties and situations of involuntary immobility. Although the emergence of automobility throughout the world has been considered as a liberation from time and timetables (Urry 2007, 121), automobility in the Bartang Valley is still largely characterised by time constraints, since cars are limited in number, shared and roads frequently unusable. These constraints thus necessitate the need to organise in advance and, furthermore, have the necessary stamina to undertake journeys on foot in order to avoid involuntary immobility.

-Protection rituals

Various mobility rituals are learned and practiced in Bartang in order to prepare for a trip and to protect oneself from various dangers. Mobility rituals are less common than in the past but tend to re-emerge in the face of adverse travel conditions. The Bartangis traditionally rely on the Islamic horoscope to decide which are auspicious and unfavourable days to start a journey. Birthdates indicate which are 'good days' and 'bad days' to undertake activities perceived as exceptional events such as travelling, building a house, getting married, etc. If for some reason one must start a trip on a 'bad' day they may 'pretend' to leave on a good day, for example, by hanging clothes outside their house in order to fake a departure on a more promising day. Long journeys also commonly begin with a prayer with the *khalifa*, the local religious leader and/or by burning fragrant medicinal herbs in the house for protection just before a departure. Traditionally neither the house nor the bodies are washed until the traveller has reached their destination. My observations and co-itinerant experiences also revealed that before an important trip woman also prepare *pokhta* (which literally means 'cooked'), small circular breads made with milk and oil typically prepared for special events. They are traditionally taken by travellers for their journey. These rituals underline the risks taken (or used to be taken) by travellers in such a steep valley: the declining practice of such rituals is the result of both Soviet secular education and the spread of motorised mobility. Mobility rituals in remote areas are an unexplored facet of motility that would require further consideration since they shed light on how people experience (im)mobility and navigate harsh mobility conditions.

The competencies required to travel along the road and paths of Bartang differs from the competencies usually highlighted in motility studies in contexts where travel options are modern and numerous (knowledge of schedules of urban transport and travel times, use of mobile applications to manage one's trip, etc.). Travelling by car and walking in the Bartang Valley requires competencies that are worth studying. Ancient hiking skills coexist alongside motorised mobility causing people to develop a wide set of skills. The roughness of the terrain, the bad state of the road, the length of the trip, the frequent road closures and the low motorisation rate forces people to develop physical abilities, organisational skills as well as knowledge of rituals, in order to stay motile. However, the numerousness of these necessary skills limits the mobility plans of many; suggesting that a significant proportion of the Bartangi population is not very motile and may easily experience involuntary immobility.

7.2.6.3. Appropriation of mobility: mobility hierarchies, perceptions and meanings

The third and final aspect of motility relates to the manner in which people appropriate mobility depending on their plans and aspirations, meaning the way mobility options are used. This section will show evidence that men are more likely to move than women in Bartang. This section will also demonstrate the process through which the Bartangis plan journeys despite dangerous, adverse road conditions and will consider moral values and meanings associated with walking in the region.

-A gendered mobility hierarchy

Men and women do not appropriate mobility in the same way in the Pamirs because of differentiated family and domestic responsibilities. Drivers are exclusively men in Bartang with men more likely than women to work in cities or move abroad (Reeves 2011). The immobility of some allows for the mobility of others (Adey 2006): immobile individuals are 'moorings that configure and enable mobilities' (Hannam, Sheller, and Urry 2006, 3). This is evident in the Pamirs and Tajikistan more broadly, where women (particularly those that are married) are commonly in charge of domestic duties and responsible for children and, by extension, because of the absence of the majority of men, are more prone to immobility (see Cook and Butz 2017) and Ingham, Islam, and Hicks (2018) for studies of gendered mobility hierarchy in nearby Pakistan). When a participant in Roshorv, a woman in her fifties, was asked whether she liked to travel or not; she answered: 'I would like to travel but I cannot: if I travel, there is no-one left to take care of the house!', pointing to her daughter who had recently given birth as well as her two grand-daughters who all resided with her. Another woman from Basid relayed during fieldwork in January 2018 that it was necessary to visit Khorog for medical care the following month but she was hesitant at the fear that heavy snowfalls might block the road and prevent her return:

> If I stay stuck in Khorog, who would take care of my daughters?

Because of gendered social responsibilities Bartangi women cannot be as ambitious in planning their mobility as their male counterparts. They are therefore not as motile as men are and more prone to involuntary immobility.

-Appropriating dangerous mobility practices

My own first travelling experiences in Bartang were accompanied by feelings of anxiety due to my perception of risks along the road. Research participants also considered the road dangerous but most explained that they were not scared; faced with the perils of the road and the risks of rock falls, avalanches or the likelihood of the car being run off the road, most participants relayed that they were accustomed to this road and trusted their good luck or spiritual blessing (*barakat*) to see them through. Fellow travelers further explained that I should not be concerned about my security on the road since after many trips in the Valley, I was now touched by the Bartangi *barakat* which would protect me. The Bartangis believe to be blessed with a particularly strong *barakat* given their harsh living conditions (Kicherer 2019), which protects them against difficult and unavoidable journeys. Reliance on their skills and faith helps the Bartangis to appropriate dangerous mobility practices and to avoid becoming stranded.

-Moral values and meanings associated with walking

Walking, whether or not by one's own choice, may be perceived as a pleasant or meaningful experience (Adey 2010, 33). Although many informants in Bartang typically see walking as a difficult and tiring activity, others enjoy it as it is thought to keep one strong and healthy as well as deepening a bond with "nature". As Urry (2007, 85) notes in his analysis of the development of leisure walking in Europe: 'morality is associated with significant bodily effort' (2007, 85). This is the case in Bartang where physical strength is praised and valued as a central human virtue. In addition, for some Bartangi walking constitutes a pleasant voluntary leisure activity. Several of my interlocutors, all male and in their forties to sixties, relayed that in the summer they go up to the mountains for hiking, resting and enjoying the calm and fresh air. Khoshbou, a fifty year-old man from Basid, explained that he could not live without walking with hiking in particular offering the opportunity to chat with friends and to enjoy the landscapes and wilderness. In this sense, as Urry expresses: 'Walking [becomes] a way of being and not simply a means of travel' (Urry 2007, 79). Furthermore, for those able to do so, walking may also be an act of freedom (Urry 2007), and as Adey (2010, 125) argues: 'by walking, one could take hold of space and use it for their own purposes'. In this sense, walking is not necessarily a burden but also a way of expressing one's freedom, breaking away from the constraints of motorised mobility, and consequently a means for some to avoid becoming stranded.

Long distance walking is also a form of social engagement in the Bartang: 'walking may be slow but it is the commonest means of overcoming the friction of distance and it is therefore part and parcel of multiple socialities' (Urry 2007, 64). Some informants explained that social cohesion is strong because, among other things, people are well acquainted with one other throughout the Valley due to long walks and sleepovers. In summation, walking is crucial in the Bartang in preventing involuntary immobility and is a valued mode of transport. However, the access to this slow and non-motorised mobility option depends on physical skills and domestic responsibilities.

An analysis of the appropriation of mobility by the Bartangis has revealed that women are more likely to be faced with involuntary immobility because of their domestic duties. Motility is therefore not distributed to everyone equally. Examining the appropriation of mobility also highlighted that dangerousness of journeys is offset by people's experience and reliance on *barakat* (spiritual blessing). Although in Bartang travelling is more often a need than a choice, it is also associated with many positive meanings and moral virtues. All these facets of appropriation of mobility in the Valley are crucial to understand how people practice mobility in a context of low hospitality potential and how they intend to avoid becoming trapped. The section to follow synthesises the main findings presented thus far, addresses their policy implications and reflects on the conceptual contribution of the paper.

7.2.6.4. Conclusions

The aim of present research was to examine the causes of involuntary immobility in the Bartang Valley. Results have shown that involuntary immobility in such a context is the outcome of multiple variables. The inhabitants of Bartang have limited motility and are at frequent risk of involuntary immobility due to the insufficient 'hospitality potential' of the territory. The motorisation rate is very low and the road is frequently impassable, therefore long-distance walking is still widespread. Accessibility fluctuates according to weather patterns

and to the occurrence of environmental hazards such as avalanches, rockslides and floods. The research study revealed the importance of physical and organisational skills, including protection rituals, necessary to navigate through adverse mobility conditions in the Bartang Valley. The existence of mobility rituals shows that spirituality and beliefs condition motility in some contexts; and analysis of the 'appropriation' of motility has underlined that women are more prone to involuntary immobility than men because they (and especially married women) are more responsible for domestic duties. The Bartangis face the dangerousness of trips by trusting their *barakat* (spiritual blessing) and some of them attach moral and social values to sharing long and difficult journeys. These are novel facets of motility highlighting how people protect themselves and/or appropriate mobility in hard-to-reach places.

The research was based on the premise that inhabitants experience situations of involuntary immobility in Bartang. It seems that those who are more physically able and with limited domestic responsibilities are more motile, but all Bartangi are at risk of staying stuck in their villages when the road is closed or even when walking trails are obstructed by floods, avalanches or rockslides. Involuntary immobility is therefore experienced differently by social groups (according to gender and socioeconomic responsibilities) but also fluctuates over time depending on current conditions of accessibility. This study has revealed how much the mobility-immobility nexus is rhythmic in the Bartang and the degree to which people may alternate between mobility and immobility. Thus, following Ayeb-Karlsson, Smith, and Kniveton (2018) on their critique of the notion of 'trapped populations', caution is necessary when labelling someone as 'trapped'. Conceptually, the contribution of this study has been to demonstrate the relevance of the concept of motility in order to reveal the multiple factors leading to the inability to be mobile, i.e. to unmotility and therefore to apprehend involuntary immobility and trapped populations issues. Further research could usefully explore different facets of immobilities, as voluntary or involuntary and as potentially transformative, empowering or disabling.

The low levels of motility and frequent involuntary immobility situations among the Bartangis have implications for development perspectives. Being trapped threatens food security, health and well-being since road closures or car unavailability prevent people from accessing towns and cities. In addition, low motility means fewer income opportunities: for example, few people are able to sell their crop surpluses or handmade knitted clothes in the city and tourism to villages is limited by the lack of accessibility. On this basis, motility has crucial implications for development and well-being because in highly dependent poor rural settings with food and health issues, how people access goods and services is of paramount importance. It seems obvious that more resources should be allocated to road infrastructure (Bliss 2006) and disaster risk reduction at the state level and this is frequently raised by locals as a prerequisite for the socioeconomic development of the Valley. However, better accessibility in the Valley should be achieved in a considered way in consultation with the population in order to avoid creating car-dependency and unintended effects that may threaten community life and values associated with long distance walking, slowness, patience and remoteness in general (see Cook and Butz 2011). With these considerations what should be promoted? Policy could facilitate accessibility to basic products and services in place (for example, through an improved provisioning system with the assistance of public vehicles), and could promote the

'anticipation' and 'coordination' of emergency mobilities (Adey 2016, 36 and 38) to ensure evacuation or provisioning in contexts of food insecurity, environmental disasters or urgent need for healthcare. Promoting mobility as a solution is questionable since it means the population of the Valley would remain highly dependent on the rest of the country. Increased motility (i.e. potential for mobility), on the other hand, seems desirable since it would enable people to avoid involuntary immobility without necessarily implying increased and possibly socially-adverse mobility. That is why, as a mobility justice perspective suggests, people's motility as well as a 'just circulation of goods, resources, energy' (Sheller 2018b, 30) should be enhanced in order for the Bartangis to continue dwelling in their valley and to circulate as much as they want.

7. 3. CONCLUSION

Article 5 attempted to shed light on an important issue for the Bartangis: the physical low accessibility of their Valley emerging from generally poor road conditions, a low motorisation rate, and frequent environmental hazards which further impact road conditions. Given this low accessibility, most Bartangi have low mobility capital which periodically causes involuntary immobility. When disasters strike, the Bartangis undertake physically demanding and often dangerous journeys in order to fulfil their mobility needs or plans. This constitutes a meaningful example of how environmental hazards may reinforce existing socioeconomic vulnerabilities and complicate travel to, from, and within the Bartang valley. This article has illustrated the value of focusing on mobility infrastructure and materialities—such as roads and vehicles—in the context of disasters. By focusing on micro- or small-scale mobilities, the article also sought to underline how these are also impacted by environmental conditions and therefore why they need to be included in scholarly reflection on "environmental mobilities".

The examination of different mobility scales and how they interrelate deserves attention given the possible impacts on livelihoods and consequently on the habitability of a place. For instance, mobility impairments within a city, valley, or region such as traffic congestion, breakdowns, or strikes may put pressure on everyday commutes and influence people's residential choices. When roads become unusable because of detrimental environmental conditions, some areas could become less habitable or even inhabitable and this could progressively trigger out-migration. In many places, for instance, the destruction of roads or railways due to thawing permafrost or frequent floods is concerning. As suggested at the conclusion of Article 5, the *mobility justice* perspective may help us understand why mobility impairments matter and why small-scale mobility capacity (for instance, from a mountain village to the nearest town for work or study) may determine large-scale migration capacity (for instance, to travel or migrate abroad). The mobility justice perspective includes an array of spatial (im)mobility scales, ranging from the body bodily scale to the planetary scale, and could, as Article 5 suggested, constitute a significant theoretical inspiration for studies on the relation between the environment and (im)mobilities. Mobility justice draws from theories focused on power, inequality, and justice, and recommends exploring concepts that shed light on (im)mobility imbalances. These concepts may enable an exploration of how (im)mobilities are impacted by environmental hazards and also how (im)mobility issues affect certain groups and individuals more than others depending on factors such as material and immaterial resources,

age, ethnicity, gender, or sexuality, for instance. Article 5 attempted to demonstrate the relevance of the *mobilities paradigm* to studies on the effects of environmental conditions on (im)mobilities and advocated for the inclusion of more mobility patterns within environmental mobilities. The conclusion of this dissertation will elaborate on this point, recap the main research results, and discuss the limits of the work, topical and theoretical perspectives, and the implications of the research for Tajikistan's Pamir Mountains.

8. GENERAL CONCLUSION

The conclusion of this dissertation underlines the main results, contributions, and limits of the study, offers topical perspectives and theoretical reflections, and discusses the significance of the findings for the sustainability of livelihoods in the Bartang Valley.

8. 1. MAIN CONTRIBUTIONS TO THE UNDERSTANDING OF (IM)MOBILITIES IN THE BARTANG VALLEY

During my first encounters with the Bartang Valley, I remember asking myself: "How can people live in such remote areas?" While terminating this dissertation, I consider that I have lifted the veil on this interrogation. Attachment and resilience help residents to remain and withstand vulnerabilities despite the lack of accessibility and disaster risks.

This research work explored how Bartangi livelihoods are shaped by complex networks of (im)mobilities. It also addressed the meanings and values attributed by the Bartangis to their place of residence, and to *watan* [homeland] in a context of economic poverty, physical remoteness, and environmental pressure. A *mobilities* perspective was chosen in order to focus on the aspirations and capacities of the Bartangis to leave or remain in their lands and on the way different patterns of circulations shape their lives. Emphasis was placed on the impact of environmental conditions, and specifically of environmental disasters, on mobilities on different scales.

Despite these vulnerabilities, as Article 4 (Section 6.2) argued, the Bartangis express a strong attachment to the *watan* where their ancestors lived, where their religious and linguistic community lives, where shrines offer spiritual protection, and where the air and water are perceived as particularly pure. My examination of the relation between the Bartangis and their environment shows how it is simultaneously dreaded and valued by residents. The Valley is even regarded by some as a safe haven, isolated from the detrimental aspects of life in the city. Its topography, river, streams, and pastures constitute an environment considered by many as the only place where one's Bartangi identity, as a shepherd(ess) or as a free mountaineer, is truly experienced and felt. This strong sense of place attachment may therefore compensate for negative realities such as economic poverty and environmental dangers. This does not mean that all Bartangis aspire to immobility, but many express the wish to remain in their lands, or only to leave temporarily before returning to the Valley.

Socioeconomic and environmental vulnerabilities push many Bartangis to migrate to cities in Tajikistan or Russia, or to circulate between the Valley and other locations. However, such circulations are complicated by the physical low accessibility of the Bartang Valley and the low motility of most residents in this context, as Article 5 (Section 7.2) showed. Environmental hazards reinforce the low accessibility of the Valley due to poor road conditions. The residents often have to deal with situations of involuntary immobility. Low motility poses a threat to livelihoods since the Bartangis are highly dependent on mobility in order to access basic products, healthcare, banking services, education, and employment opportunities, among others. The focus on mobilities on the provincial scale foregrounded the crucial role of such

mobilities for communities like the Bartangis and the way they may be impacted by environmental conditions. Furthermore, a lack of motility reinforces existing economic vulnerabilities and issues related to food insecurity, energy poverty, and lack of access to healthcare.

Theoretically, exploring the multiple facets of immobility for the Bartangis contributes to the growing scholarly focus on the topic. Environmental hazards may have an array of impacts on (im)mobilities: they may trap people in place but may also be integrated into daily life, and residents may choose to remain for a variety of sociocultural or psychological reasons. This urges us to forward the values, preferences, and aspirations of residents. The examination of these dynamics contributes to the scholarly debate on the significance of environmental conditions in environmental migration and mobilities and suggests that we examine the issue—as the title of Article 1 (section 4.2) expresses— "in a multifaceted way" that includes the mobility potentials and aspirations of the population under study. In this vein, this research has experimented with and defended the use of several concepts and theories of the *mobilities paradigm* such as motility, immobility, translocal mobilities, and mobility justice. This conceptual exploration links several different disciplinary fields, such as urban sociology, cultural geography, and environmental psychology.

Engaging in a long-term ethnography and participant observation enabled me to examine multitudinous aspects of daily life in Bartang, which are presented in my empirical articles and broad conceptual reflection. Methods such as co-itinerance, mobile auto-ethnography, and active observation through filmmaking and audio recording complemented interviews and conversations and enabled me to explore practical and material aspects of (im)mobilities. These multiple methods led to this rather hybrid work, which lies at the intersection between studies on the environment-migration nexus, on rural-urban, daily, and *reversible* mobilities, and more classical ethnographic works on mountainous communities in Tajikistan.

Contextually, this work seeks to offer up-to-date information on the population of the Bartang Valley, on which few long-term ethnographies have been conducted over the past years (the work of Kicherer [2019] being the most notable exception). My case study touches upon issues of post-Soviet transition, livelihood sustainability, environmental hazards, and risk perceptions, but also everyday activities and spirituality, which altogether hopefully provides a reasonable picture of the Bartang Valley today. A vast array of (im)mobilities are central to Bartangi livelihoods, enabling residents to stay, leave, and return. These increase the adaptive capacity of the Bartangis and help them envision a future in their valley despite existing vulnerabilities and disaster risks. However, pressing socioeconomic issues remain, which the Bartangis want to address. My friends in Bartang often told me about ongoing situations regarding access to electricity or road conditions. These are everyday concerns for which they hope to find a solution quickly.

8. 2. MAIN CONTRIBUTIONS TO THE FIELD OF ENVIRONMENTAL MOBILITIES

Among the contributions of this work to the field of environmental mobilities, I believe these are the most central:

1) An in-depth focus: The focus on a single case-study based on a long-term ethnography offering in-depth insights into the studied region's everyday realities. While many studies on the link between environmental conditions and mobilities rely on second-hand sources or on rather short-term fieldworks, this study, drawing on a fieldwork conducted over four years, has enabled to encompass a multitude of situations, practices, events, and conversations that I have observed or in which I have taken part while I was staying in the villages under study. I believe such a long-term engagement with the Bartang Valley has enabled to delve into the complexities of the environment-(im)mobilities relationship and to foreground individual and embodied experiences.

2) The multitude of methods used and the multimodal approach: The methodological approach has enabled to incorporate both representational and discursive (aspirations, thoughts, opinions, tastes), and non-representational elements (practices, events, materialities, atmospheres) of Bartangi lifeworlds into the research. While many studies on the link between environmental hazards and mobilities rely solely on interviews and discourses, often overlooking non-discursive aspects of people-place relationships, I have decided to incorporate a variety of methods including audiovisual and multisensory ones such as mobile methods and auto-ethnography. These methods have enabled to explore the way individuals interact physically and sensuously with their environment and may decide and be able to move under different circumstances.

3) The importance of space: The integration of a human geography perspective with a focus on people-place relationships through place-related concepts has helped to focus both on the material and physical aspects of places (infrastructures, biophysical and more-than-human environment) and on symbolical ones including meanings and attachments. While more and more studies argue for the incorporation of concepts such as place meaning and place attachment into environmental mobilities, the connection remains rarely explored in depth.

4) The importance of materialities and infrastructures: The focus in this dissertation on materialities and infrastructures including roads, paths and vehicles is particularly novel to the field of environmental mobilities. The way the mobility infrastructure is challenged by environmental hazards and the way it poses a threat to everyday and/or translocal mobilities remains overlooked by environmental mobilities. This dissertation contributes to the incorporation of such issues to the field.

5) A multidisciplinary conceptual framework: The merging of conceptual approaches coming from the fields of urban sociology, migration studies, human geography, and environmental psychology is also innovative for the body of research on environmental mobilities. The multidisciplinary framework of this dissertation has enabled to reconnect mobility and immobility, and to delve into the relation between voluntary and involuntary immobilities. This has led to a systemic approach viewing different mobility and immobility patterns as interdependent on different geographical, social, and time scales (Section 8.5.3 will elaborate on the theoretical perspectives suggested by this research).

Overall, this in-depth ethnographic study brings complexity to the field of environmental mobilities, participates in current theoretical debates and suggests new ways forward. It seeks to explore different ways environmental conditions and (im)mobilities interact and to bring forward the topics of small-scale mobilities, accessibility and involuntary

immobility, and attachment and voluntary immobility. Nonetheless, this study has many limits which will now be outlined.

8. 3. LIMITS OF THE STUDY

8.3.1. On the messiness and spontaneousness of fieldwork

This research has taken unexpected conceptual and thematic directions. The focus on immobility and the shift in scales between small-scale mobility potentials and larger-scale mobility aspirations emerged from fieldwork experiences. As I explained in Chapter 5, this research position reflects my desire to stay open to "the field" and to issues which emerged as particularly salient or remarkable. This ethnographic/inductive perspective, together with multiple journeys between the field and the office and the choice to conduct a PhD by publications, has resulted in what may appear as a "choppy" and fragmented dissertation. However, I have attempted to keep a theoretical coherence when examining different topics in relation to current theoretical reflections and scholarly debates on environmental mobilities. The potential unevenness or *roughness* of the dissertation reflects the chaotic nature of ethnographic fieldwork which must leave room for spontaneity, chance encounters, and theoretical exploration and discoveries.

8.3.2. On (im)mobilities in the Bartang Valley

This work is not exhaustive and is not meant to present a full picture of (im)mobility patterns to, from, and within the Bartang Valley. As outlined in Chapter 3 and as evoked throughout the dissertation, Bartangi livelihoods depend on multiple forms of mobility on different scales. Out-migration to Dushanbe and to Russia is a significant phenomenon. Mobilities of different durations to Khorog and other cities in Tajikistan also shape the daily lives of the Bartangis regarding access to many products, services, and opportunities. While some residents leave for weeks, months, or years, others stay because they can't or don't want to go. This is why Bartangi livelihoods currently rely on multiple forms of (im)mobilities occurring on diverse temporal and spatial scales which form complex mobility systems.

In this context, I chose to delve into two topics which had not received much scholarly attention from the field of environmental mobilities: voluntary immobility, or the aspiration not to migrate despite risks, and involuntary immobility, or situations when people lack the means to move (at the scale of the Bartang Valley). These two topics examined together enables an understanding of how mobility and immobility complement one another as well as how (im)mobility scales interact. Thus, this study deserves to be completed with an exploration of other forms of mobilities and how they condition each other. Quantitative data on the number of people leaving, circulating, and staying in the Valley would offer valuable insight on mobility dynamics in the region. Studies reflecting on the aspirations and potentials of individuals in the context of labour migration would also greatly benefit an understanding of how Bartangi livelihoods are organised today and how they are maintained despite remoteness, economic difficulties, and pessimistic scenarios concerning the effects of global climate change on mountainous communities.

Theoretically, this work deserves to be completed by an exploration of what translocality means practically for everyday lives, how it is perceived and experienced by translocal communities and households who have to deal with fluctuating mobilities, immobilities, presences and absences. In this dissertation, the translocal approach has fostered the framing of mobilities and immobilities as relational and has enabled to reflect on the fuzziness of dichotomies such as mobility/immobility and voluntary/involuntary. Thinking in terms of circulations and alternations between movement and stillness, between aspirations to stay in the village and dependence on mobilities to the city, was decisive in choosing the main research objects and connecting them in this dissertation. However, many of the challenges and opportunities offered by translocal lives in Tajikistan's Pamirs are still to be explored.

8.3.3. On aspirations and potentials

Although this study has foregrounded the importance of focusing on aspirations and potentials as a way to reconnect different (im)mobility patterns on different scales, these important notions could also be explored in more detail given their complexity. In my exploration of the environment-(im)mobility nexus in Tajikistan, I have sought to understand how (im)mobility aspirations could be modified by urgent environmental issues but also how these issues could hamper movement on different spatial scales. I have highlighted the importance of differentiated potentials for movement in Chapter 7 with an emphasis on *motility* or mobility potential which may vary according to conditions of accessibility and individual mobility skills and means of accessing mobility depending on one's preferences, values, or identity. Reference to the *mobility justice* perspective has also been a way to recognise the value of examining differentiated abilities for (im)mobility and what they reveal about social (in)justices.

The focus on aspirations and potentials in the domain of mobility enables an assessment of how much one particular mobility pattern is rather voluntary or involuntary. This work makes links between aspirations, potentials, and the voluntariness of mobilities. By showing how voluntary and involuntary immobilities coexist within a Valley, and even within individuals, I have attempted to show how notions of voluntary and involuntary deserve to be carefully contextualised. However, the analytical distinction between voluntary and involuntary mobility within this work needs to be more thoroughly conceptualised. Ottonelli and Torresi (2013) and Carling and Schewel (2018) have demonstrated how complex—and sometimes blurred—the notions of voluntary and involuntary are in the domains of migration and mobility. This work would gain from a deeper exploration of the structural and individual processes behind the formation of mobility aspirations, in order to engage critically with such notions. I will later suggest theoretical perspectives in order to overcome the voluntary-involuntary dichotomies (section 8.4.2).

8.3.4. On the multifaceted relation between residents and environmental conditions

Article 4 (Section 6.2) argued that the biophysical environment may be a source of amenities and simultaneously represent a threat. The Bartangis, and especially in some villages, dread the effects of floods, rockslides, or avalanches but also recognise and appreciate the quality of air and water or the calm and peacefulness surrounding them. The complex bonds between

residents and their environment should be explored further: What do we really mean by "environment"? How do animals, biophysical elements, landscapes, veteran trees, and built infrastructures such as houses and shrines, together form a complex ecosystem which plays a key role in people's perceptions of their dwelling place, of their village or valley, of disaster risks and therefore in determining (im)mobility choices? The Bartang River, for instance, is a central element of the Bartangi landscape and crucial to Bartangi livelihoods, highly valued and respected yet dreaded when it overflows in summer. Even though Article 4 foregrounded place attachment and touched upon the role of environmental amenities in the face of risks, I believe long-term ethnographic explorations of the multifaceted relations between residents, their beliefs, cultural practices, and environmental conditions involving humans, animals, biophysical elements, and infrastructures will bring a deeper understanding of geographical representations and the cultural values of the Bartangis in relation to these representations.

8.3.5. On the political management of environmental issues and risks

This dissertation has not elaborated on the political aspects of disaster risk management. Data are not easy to find on these issues in Tajikistan and such research would not be easy to conduct given the political context. However, some of my interviews touched upon the role of the state and its interventions regarding disaster risk management or planned relocations for instance. The role of the Aga Khan Development Network as a central actor in the region has also been mentioned. Over the years of my fieldwork in Tajikistan, I followed the development or implementation of some projects by external actors such as the construction of irrigation channels, a hydropower station, and the development of new settlements in the Bartang Valley. I had many informal conversations with friends and various interlocutors on these actors and projects, which played a role in my research work. Following a devastating earthquake in 2015, residents of the village of Ghudara rejected an offer by the government to relocate them in lower lands at the entrance of the Bartang Valley because of their strong bonds with their ancestral lands and their economic activities as herders. I used this example as a way to highlight people's attachment to their village, but I have not examined the relations between the residents, the state, and other international organisations following the earthquake. On the case of newly built settlements after environmental disasters, some interlocutors explained to me the complex relations between the state, other international organisations, and residents in the process of relocation. This complex web of networks deserves investigation in order to further understand how the capacities of residents regarding mobility or immobility are shaped by the work of different actors. As such, and as I will develop later, I think a more political perspective on the issue of environmental mobilities would have benefitted this research. The *political ecology* of Bartangi livelihoods and the way external actors intervene in the relation between residents and their environment would also shed light on the way people navigate (im)mobilities to, from, and within the Valley.

8. 4. TOPICAL RESEARCH DIRECTION: DISCUSSING THE PLACE OF THE "ENVIRONMENT" IN ENVIRONMENTAL MOBILITIES STUDIES

This dissertation has been ambivalent in relation to environmental issues. Article 1 positioned the research as clearly orientated towards environmental conditions and risks and

Article 4 addressed the environment through biophysical amenities and environmental risks. However, Article 5 moved away from a focus on the environment by placing the issue of involuntary immobility at the intersection of multiple factors including the economic, the social, the cultural, and the environmental. This section puts into question the term *environment* and argues for a more complex and political take on the notion.

8.4.1. What do we mean by "environment"?

Reflecting on the multiple relationships humans can have with their environment, from biophysical amenities and sacred trees to pressures and risks, should be central to research within the environmental mobilities field. For now, this body of research has tended to understand the environment as climatic conditions and risks only. The most notable exception to this is the work of Boas and colleagues which recognises the multiple elements and processes which can fall under the notion of environmental mobilities, defined as "movements impacting on the environment, movements shaped by environmental factors, and harmful environmental flows" (2018, 107). The definition of *environment* they suggest is broad, encompassing biodiversity, ecosystems, pollution, climate, and extreme weather events. Drawing on this work, I have mostly relied on the term "environmental mobilities" throughout this dissertation. The term is rather recent and has almost exclusively been used by Boas and colleagues (2018; 2019) and Wiegel and colleagues (2019).

The way terms such as climate-induced, climatic, ecological, or environmental are used in the study of the relationship between risks and migration is often ambiguous and sometimes confusing. Studies tend to use "climate" or "climate change" to encompass the hazards examined but as Boas and colleagues note: "Even when climate change does play a role, it remains difficult to determine the extent of its influence. For instance, when people have to move in the event of a cyclone, it is not always clear to what extent the cyclone can be attributed to climate change" (2019, 902). Terms such as "weather-related influences" (Anderson and Silva 2020) or "environmentally-related migration" (Boas 2020) helps to define meanings or to balance the relationship. In addition, most studies on environmental migration and mobilities tend to focus solely on climatic conditions. However, it seems important to recognise that climatic or environmental conditions can both attract and repulse populations, sometimes simultaneously. A mountain or a river may be enjoyed and feared and constitute both an amenity and a risk. How do we integrate this into our frameworks? I believe a more thorough examination of people-place relationships, subjectivity, and positionality as suggested by Parsons and Nielsen (2020) would help in this endeavour.

8.4.2. Toward a multifaceted view of human-environment relationships

Examining people's perceptions of environmental dynamics and climate change may help to understand how they consider their environment in the broad sense and therefore how they deal with potential risks, and how amenities may compensate for risks in the decision to migrate, for instance. A focus on livelihoods and their dependence on environmental conditions may be crucial to understanding environmental migration. People engaged in occupations which are strongly dependent on environmental conditions—such as farmers, fishers, or herders, for instance—are usually significantly affected by even small changes in those conditions. As a

recent article by Parsons and Nielsen shows, the "subjective positionality and marginality" of individuals play a key role in the relationship between climate and migration because environmental factors are "entangled in a variety of other socioeconomic characteristics and processes, from age to gender to education" (2020, 12). As such, even though ethnographic, "cultural" (Farbotko and McMichael 2019; Parsons 2019; McNamara, Westoby, and Chandra 2021) or socio-psychological perspectives (Adams 2016; Koubi et al. 2016) have made their way to the field of environmental mobilities, there is still much to explore regarding the importance of individual risk perceptions, positionalities, preferences, and values in mediating the relationship between climate and migration (see Parsons 2019 for a critical review). The relation between populations and their environment is multifaceted and comprised of multiple mundane practices. It seems crucial to embrace this complexity in order to understand who may or may not migrate in the context of environmental pressure. Caution is also needed regarding the terms we use—such as *environmental*, *ecological*, or *climatic*—as they correspond to different processes which lead to different outcomes in terms of the relation between people and their living areas.

8.4.3. (Re-)politicising the environment

Reflecting on the status of the environment within environmental mobilities and on the specific terms we use leads us to the issue of the (re)politicisation of environmental mobilities. Many authors have emphasised the detrimental tendency of the field to examine environmental mobilities as an almost "natural" phenomenon disconnected from political matters (Black et al. 2011; Bettini, Nash, and Gioli 2016). Many studies also use the controversial notion of "natural disasters", which may position disasters as inevitable forces threatening humans (for example Neumayer and Plümper 2007; Gray and Mueller 2012). However, "vulnerability does not just fall from the sky" to quote Ribot (2003, 164) but rather is socially and politically constructed. Some disasters such as storms or floods may actually be anthropogenic, at least partly, and most often disasters have multiple root causes. Framing disasters as natural or migrations as climate-induced may only contribute to the de-politicisation of such processes, with severe and adverse effects. Political ecologists have long argued that the embeddedness of climatic or environmental processes within economic and social systems needs to be recognised and integrated into our research frameworks (see Robbins 2004). Piguet has shown how migration studies literature has changed its position in relation to the biophysical environment over time, from periods of "denaturalisation" to the "rediscovery of 'nature'" (2013, 156). He also explains that migration studies have tended to overlook political ecology studies although, in his view, connecting both fields "could resolve the dilemma of how to account for the environmental component of population displacements without overemphasizing this factor as a monocausal deus ex machina" (Piguet 2013, 157). Embracing a political ecology approach, Piguet writes, would position the environment as "one factor behind the social processes of migration, albeit one that interacts with many others, including power relations, class structures, economic inequalities, colonial legacies, cultural and religious specificities, political organisation, and gender relations" (Piguet 2013, 157). Since Piguet's article was published in 2013, it seems that the development of this crossdisciplinary connection has not been realised, and that the field of

environmental mobilities still has much work to do to find relevant ways to "denaturalise" the environment (Piguet 2013; see also Anderson and Silva 2020).

This is not to say that so called "nature" is a force entirely propelled or animated by humans, but that we should be cautious not to view "nature", "climate", or "the environment" as distinct forces to which humans are submissive (see Piguet 2013). This also leads us to consider the relation between the environment and humans as a complex system of interactions. Here we should draw inspiration from holistic theories such as the *actor-network* theories which push us to examine systems and webs of human, non-human, and material actors and recognise the agency of the biophysical environment and interrelated societies, cultures, and relations of production (Gareau 2005). Environmental mobilities scholars keep repeating that environmental mobilities are not solely environmental but shaped by multiple factors (Piguet 2013; Boas et al. 2019). Debates and discussions still centre on the weight and role of environmental conditions in migration. Thus, a sociopolitical view on "environmental conditions" would contribute to denaturalising the field and embracing the multiplicity of factors and complexity of networks and relations. This could help to identify and avoid potentially dangerous discourses in the field of environmental mobilities.

8.4.4. Rethinking human-environment relationships as a way to emend dangerous notions of climate and environmental migration

Overly simplistic views of the "environment" and people-place relationships may result in potentially dangerous theoretical relations. When the focus on environmental conditions re-emerged within migration studies (see Piguet 2013 for a review), some studies adopted a rather alarmist stance, often presenting "environmental migration" as a serious challenge for host countries (Myers 1993; 1997). Today, this perspective still exists, mostly within mass media, and carries with it serious consequences. Some scholars warn against the potential dangers of climate-induced or environmental migration narratives in "peddling fear" (Nash and Zickgraf 2020).[96] Recent reports and studies attempt to predict the number of "climate migrants" who will be on the move, culminating in a forecast of 1.2 billion people displaced in the coming decades by "ecological threats" according to the Ecological Threat Register 2020 (Institute for Economics and Peace 2020; see Nash and Zickgraf 2020). These estimates are often used to spread anti-immigrant sentiments and sensationalist discourses on the "threat of migrations" and renew calls for securitisation (Boas et al. 2019), but the numbers are highly questionable as they often connect climate change forecasts and demographic data in simplistic ways (Piguet 2013; Nash and Zickgraf 2020). They ignore questions of positionality, vulnerability, resilience, and adaptation and do not conceptualise the complexity of people-place relationships or the ways communities are more or less vulnerable, prepared or resilient to disaster risks, or aspire to move more or less. Thus, the complexity of the causal relation between the "environment" and mobility should be emphasised and more forms of (im)mobilities should be examined in order to avoid simplistic and often erroneous interpretations.

Discussing environmental migration or mobilities implies a rather straightforward relation between environmental hazards and mobilities, which has never existed as such. Environmental

[96] http://heindehaas.blogspot.com/2020/01/climate-refugees-fabrication-of.html

conditions are one factor among many and are embedded in sociopolitical determinants. Understanding environmental disasters and climate change as "threat multipliers" (IDMC 2018) which reinforce existing environmental, social, and economic vulnerabilities, should integrate environmental conditions into complex webs of causalities. Thus, it is crucial to "keep the questions open" (Boas et al. 2019, 903) and to push the field of environmental mobilities towards more critical views on what "environmental" means as well as on the differentiated positionalities of populations affected by ("environmental") pressures and risks. This is why this dissertation is strongly influenced by the *mobilities paradigm* which tends to examine mobilities as the result of multiple factors, as a political issue, and as differently practised and valued by social groups, communities, or individuals. Engaging further with this paradigm could profit research on environmental mobilities, as the next section will demonstrate.

8. 5. THEORETICAL SUGGESTIONS FOR FUTURE RESEARCH

I will now suggest research directions which I believe would be particularly inspiring for the field of environmental mobilities. I advocate for a closer engagement with the *mobility justice* critical perspective and with the aspirations-capabilities framework in order to shed light on (im)mobility imbalances, frictions, blockages and temporalities. Epistemological approaches focused on the interconnection of spatial scales, on systems and networks can help us view the issue of environmental mobilities in wider and more critical ways.

8.5.1 Mobility justice in its political dimension: taking another step forward

This study engages with the *mobilities paradigm* in social science (Hannam, Sheller, and Urry 2006) and I believe such approach offers a fruitful perspective which needs to be fully embraced by environmental mobilities studies. The *mobilities paradigm* has only recently emerged as a significant theoretical inspiration for studying the relation between environmental conditions and human mobility (Wiegel, Boas, and Warner 2019; Boas et al. 2018; Boas et al. 2019). Prior to that, the mobilities paradigm had largely explored environmental impacts of human mobility in terms of CO^2 emissions on the global scale or the effects of environmental disasters on small-scale mobility (Sheller 2013; Cook and Butz 2016). The above quoted works by Boas and colleagues have played a crucial role in bringing *mobilities* concepts within the field of environmental mobilities. A special issue of the journal *Mobilities*—the key journal where the mobilities paradigm theory has been developed—promoted the inclusion of the theory of mobility justice, which "focuses attention on the politics of unequal capabilities for movement, as well as on unequal rights to stay or dwell in a place" (Sheller 2018a, 1), in the study of environmental mobilities. Baldwin, Fröhlich, and Rothe (2019) were among the first to demonstrate the value of a mobility justice perspective for studying the relationship between climate change and human mobility, explaining that the mobility justice lens "opens up the terrain of the politics of climate change in very productive ways" (290) and "enables us to re-characterise those displaced by 'climate change' not as 'climate refugees', but as displacees of a globalised network of intersecting mobility regimes fuelled by fossil fuel extraction" (291). Such a political, critical and systemic view on mobility systems remains to be integrated to the field of environmental mobilities.

In this dissertation, the mobility justice perspective has helped to view (im)mobilities in a systemic way and to engage with the ways immobility and mobility relate, over time and space, for individuals or within households. It has enabled to articulate how, on specific geographic and time scales, voluntary and involuntary immobility may occur concurrently for individuals who don't wish to leave their valley but need to travel extensively back and forth between their village and the nearest towns and cities. However, this dissertation has not fully engaged with the more critical and political aspects of mobility justice. Future studies would gain from a stronger engagement with critical theories focussing on people being unable to leave, relocate or circulate when they aspire to do so (in Baldwin, Fröhlich, and Rothe [2019]'s vein) and addressing the root causes of (im)mobility imbalances and frictions. With this perspective in mind, the scholarly debate on environmental mobilities could draw inspiration from the critical issues of the individuals' right to move or remain and the challenges posed by forced migrations or involuntary immobility. As Sheller's perspective also elaborates on the capacity of people to stay in a place by drawing on Lefebvre's "right to the city" (1968), the mobility justice perspective is also relevant when individuals want to stay but lack the capacities to adapt *in situ* to the adverse effects of environmental changes (Sheller 2018a). The *mobility justice* spirit could be better included by emphasising people's mobility options and capacities for movement, and the ways (im)mobility is controlled, managed, accessed, claimed and defended. I believe such view on environmental (im)mobilities, inspired by mobility justice, will deserve further theoretical explorations in order for studies to stay away from straightforward analyses of climate migration, to (re-)politicise the issue of aspirations and capabilities, and to bring complexity to the environmental mobilities research agenda.

8.5.2 Delving into the aspiration-capabilities framework for a more political and agentic view on (im)mobilities

Mobility justice encompasses Sen's aspiration-capabilities framework and focuses on the differentiated potentials of the mobility of individuals, and therefore advocates for the development of concepts such as mobility potential, motility, mobility frictions, and inequalities (Sheller 2018a). This direction has been central in the present dissertation but still needs to be clearly engaged with in order for the field of environmental mobilities to go beyond accounting for people on the move or evaluating the weight of the environmental factor in migration decision-making.

Through aspirations and capabilities, environmental mobilities studies and mobility studies in general should critically engage with the voluntary-involuntary dichotomy often used to characterise mobilities. As the works of de Haas (2014) and Carling and Schewel (2018) have showed, such dichotomy only serves as a continuum to discuss the range of possibilities individuals enjoy in the realm of mobilities. Considering the ambiguity of the dichotomy, the notion of

acquiescent immobility developed by Schewel and cited in Article 4 to depict the situation of people "who do not wish to migrate and are unable to do so" (Schewel 2019, 335) could help provide a deeper understanding of the aspirations and potentials of the Bartangis regarding (im)mobilities. As Schewel explains, *acquiescent* refers to tolerance and non-resistance to given constraints and could apply to the situations of some Bartangis. In the case of Bartang, future

studies should examine how much moving or staying is truly voluntary. When mobility is considered voluntary, are we certain there are other options available? When people declare they are voluntarily immobile, do they actually have any other options? In this study, I have argued that place attachment was strong among the Bartangis and actually plays a key role in their culture and spirituality. However, it is sometimes hard to distinguish between voluntary and involuntary immobility in relation to that attachment. Place attachment could be reinforced or reaffirmed by one's lack of mobility capacities. For instance, some of my interlocutors foregrounded the importance of remaining in the Bartang Valley in order to take care of youth, elders, or land. When residents stay for these kinds of reasons, is immobility voluntary? It may be voluntary at the scale of the community but involuntary at the scale of the individual. Some former migrants also explained to me that they wished to remain in Bartang because their experience in Russia was negative, whether due to a lack of economic opportunities or because of harassment and racism. These people may be considered voluntarily immobile but may actually be *acquiescently* immobile if they lack other options. Other interlocutors (of various ages) explained that they would rather be poor and free in the Valley than lead a more comfortable albeit submissive life in the city, which suggests they probably perceive their life opportunities as limited. Reflecting on the existing tension between economic difficulties and place attachment, one woman from the village of Basid told me at the very end of my fieldwork in the spring of 2020 that "it would be nice if our houses in Bartang were like *dachas* [Russian for second homes in the countryside], we would enjoy the fresh air and healthy fruits and vegetables here but would not spend all our time in these harsh conditions." Such quote illustrates how this woman expressed attachment to her village while aspiring to some form of mobility that can't easily be accessed. Other friends and interlocutors in Bartang have suggested that some Bartangis may tend to overemphasise their attachment to their Valley and its environmental amenities because they don't have any other choice but to stay. Hence the need for future studies to delve more into issues of alternatives, aspirations and capacities and to find relevant ways to examine in depth the processes, both individual and structural, which make people able or not to appropriate (im)mobility.

In sum, I have considered place attachment to be a central attribute of Bartangi livelihoods and culture, however, I also recognise that further exploration of individual capacities for movement would deepen an understanding of the relation between attachment and voluntary immobility. Mobility aspirations vary greatly over time, depending on current living conditions and age, among other factors and they highly depend on personal life values and positionalities. Future studies would gain from a more thorough exploration of the full range of opportunities through which individuals determine their (im)mobility aspirations and options (see Aslany et al. 2021 for inspiration). The aspiration-capabilities framework and concepts focused on people's capacities and potentials regarding (im)mobilities still have much to offer to the field of environmental mobilities.

8.5.3 Epistemological stances and conceptual tools for a more systemic and critical view on environmental mobilities

How to practically engage with more critical and political views on environmental mobilities? How to explore practically the ways people may be able to move or not? I will now

suggest several epistemological stances which would, I think, help to refine the field in more critical and productive ways. The central idea here is to go towards a multiscalar and systemic view on environmental mobilities by encompassing infrastructures (what this research has begun to do) but also a vast array of materialities and more-than-human entities that shape the environment-mobilities interactions.

1. The field of environmental mobilities should incorporate more spatial scales and reflect on the way they interact. The inclusion of more mobility scales within the field, for which Boas and colleagues (2019) advocate, among others, has slowly started to expand and develop (see Parsons 2019 for a theoretical review). One of the central theoretical aims of this dissertation has been to demonstrate the importance of reflecting on different spatial scales but the interconnectedness of mobility scales still needs to be theorised. The mobility potential of an individual or household at the local scale could impact their livelihood and potentially their aspirations and capacities for out-migration. Environmental hazards may render a road frequently impassable and therefore put into question the habitability of the places where the road leads. In this vein, the *mobility justice* perspective helps to reflect on environmental mobilities in a more complex way by embracing interactions between the "constellations of [mobility] scales" (Sheller 2018a, 1) such as the scales of "the body, street, city, nation and planet" (*idem*, 14). Sheller has explained that mobility justice "spans micro, meso, and macro levels, ranging from inter-human bodily relations, to transportation and street design, to urban and regional problems, to extended infrastructural space, transnational migration, and planetary resource circulation" (2019, 9). For Sheller, mobility justice is intrinsically connected to the individual's right to remain in a place: if people become unable to circulate frequently within a city or between rural and urban areas, for instance because of a lack of financial capital or because of a degraded road, this may decrease their capacities to live in these areas (see Olsen, Nenasheva, and Hovelsrud 2020) and induce displacements. On this basis and in a context where many roads are threatened by climate change, it appears crucial to examine the interconnections between daily, circular or reversible mobilities and migration, and to adopt a systemic and multiscalar view on (im)mobilities.

2. The field of environmental mobilities would gain from a more thorough examination of the mobility infrastructure that make mobility possible or not. Regimes of mobility and mobility systems are shaped and traversed by multiple actors but also by a variety of infrastructure, biophysical elements, materials, and non-human animals which have been overlooked by environmental mobilities. Many studies within the mobilities paradigm have developed based on the value of examining material aspects of mobility, access to mobility infrastructure, and the way materialities influence mobility experiences. Drawing inspiration from works on post-disaster mobility disruptions (Sheller 2013; Cook and Butz 2016), the field of environmental mobilities could also examine the way mobility infrastructures such as arctic, coastal, or mountainous roads, for instance, are destroyed, damaged, or rendered seasonally impassable by environmental conditions. Emphasising the material reality of the relationship between the environment and human mobility helps to provide tangible examples of the ways they interact, to address the multiple facets of the relation, and also to reaffirm the political, economic, and cultural factors at stake. This "turn to materiality", as Jensen (2016, 592) explains, has been brought to the fore by theories such as actor-network theory, non-representational theory, the

nonhuman turn, and object-oriented ontologies. These theories suggest that turning to materialities, events and practices helps to unveil the networks and frictions behind particular situations or issues and to delve into their sociopolitical roots (Murdoch 1998; Latour 1987).

3. Environmental mobilities scholars should focus on (im)mobility systems rather than on specific mobility practices taken in isolation, in order to avoid making shortcuts between disasters and their impacts on (im)mobility and de-naturalising the relationship between immobilities and environmental conditions. A road blocked by a landslide may hamper rural-urban mobilities or larger-scale translocal migrations. However, if the road is quickly cleared, with the help of suitable machinery and thanks to an efficient road management system, the effects of the landslide may be extremely limited. Floods may render a road impassable, but the effects thereof could be reduced by the use of helicopters or drones for mobility or provisioning purposes. Hence the need to incorporate a systemic approach into the field of environmental mobilities and to think in terms of networks. As Latour explained within the actor-network theory, networks consist of humans, human actions, and non-human materials he calls *actants* (1999, 182) which shape and transform interactions within the network. Looking at the moment and places where different things or processes begin "to have a common fate" (Latour 1987, 175) in the context of environmental mobilities, for instance, when mobilities, road management systems, disasters, and the biophysical environment begin to interact, would help to give depth to the nexus we are exploring. This focus on networks connects with Sheller's invitation to consider "entire mobility systems" (2018), including among others the governance of mobility, mobility objects and infrastructures, weather conditions, and individual capacities for movement under different circumstances, in order to understand how people may be coerced or, on the contrary, unable to move as a result of a complex interaction of actors and actions. Sheller explains that "one social implication of mobilities research is that we need to address entire mobility systems, logistical practices, energy cultures, and the ways in which everyday mobility practices are embedded in these larger socio-technical systems that are complex, interdependent, and more-than-human" (Sheller 2018a, xv). For instance, the translocal approach, which has inspired the theoretical framework of this work, enables to adopt a dynamic view on immobilities by exploring the ways different places may be connected through mobilities, roads, exchanges, virtual communication, etc. As Greiner and Sakdapolrak explain, translocality is defined by "processes of simultaneity and identity formation that transcend boundaries" (2013, 373), which are based on a multitude of material and immaterial connections between places, rendered possible by a plethora of *actants* which need to be considered by mobilities studies. A network perspective on environmental mobilities taking into account the many spatial scales and temporalities on which (im)mobilities unfold (see Carling, Erdal, and Talleraas [2021] for inspiration) and the variety of *actants* involved, would definitely help to examine how environmental conditions and (im)mobilities may intersect in plenty of ways and to keep away from a deterministic stance.

After years spent on this doctoral research, I believe the approaches and theories evoked here would help to establish a clearer, more critical, engaging and enlivened research agenda for environmental mobilities.

8. 6. IMPLICATIONS FOR TAJIKISTAN'S PAMIR MOUNTAINS

How do such theoretical reflections, some of them rather abstract, tangibly inform the situation in the Bartang Valley? The last section of this conclusion returns to the field, bringing to the fore thoughts and implications of the research results for Tajikistan's Pamir Mountains.

8.6.1. On remoteness

The focus on (im)mobilities has suggested different ways remoteness is lived and experienced by the Bartangi community. An approach focussed on individual and embodied experiences of mobility and immobility has enabled to show how much 'remoteness' is a subjective and fluctuating notion. Our explorations of the many connections the Bartangis maintain within their province, country and beyond through labour migration and global Ismaili network among others, show that they are not isolated. However, remoteness is created or reinforced by a lack of accessibility to the region, which has worsened since the demise of the Soviet Union and its centralised provisioning system (Saxer 2019). Remoteness comes and goes according to political regimes and, on a shorter temporal scale, according to weather conditions and hazards. The Bartangis often feel remote and marginalised from their State administration, which appears to be much weaker and more distant that it used to be during Soviet times (see Parham 2016). Remoteness is more tangibly felt by residents who have experienced increased physical accessibility during the Soviet Times (with occasional helicopter flights from villages such as Basid, or cheap bus connections to Khorog and Dushanbe) and easier access to mobility opportunities through education, work or military services in faraway places throughout the USSR. Currently, the absence of public transport and the low motorisation rate in the Bartang Valley clearly participate in this lack of accessibility. When accessibility or *hospitality potential* is low, some basic needs and services become unattainable. In Tajikistan's Pamir Mountains, and primarily in villages situated away from the M41 Highway, the main artery of the region, remoteness and lack of accessibility clearly threaten food security, access to healthcare, and employment opportunities.

However, advocating for a better road and better accessibility is not unproblematic. The strong bonds which tie the Bartangis to "their" Valley seem to be, to a certain extent, shaped by this remoteness. Often, my Bartangi interlocutors expressed that they perceive the valley as a safe haven or refuge, far from state control, conflicts, environmental pollution, and urban capitalism. While some of my interlocutors identified with the Soviet approach to provisioning and with communist values, they nowadays don't identify with the current directions taken by the Tajikistani State and would rather stay away from it. The Bartangis' strong sense of community, community resilience, and solidarity are considered key values of Bartangi life and regarded as distinct from urban lifestyles. Cook and Butz, who studied the communities of Hunza in the Gilgit-Baltistan Province of northern Pakistan, show that the (re)construction of a road may lead to unexpected and unpleasant consequences for inhabitants in terms of community well-being, security, and gendered roles (Cook and Butz 2011). The poor condition of the Bartang Road and the general low physical accessibility of the Valley constitute a constraint but seem to also preserve practices and values to which the residents are attached. Although many Bartangis often blame *their* road for a constellation of problems they face, increased accessibility would likely reduce their sense of protection and possibly the amenities that remoteness is perceived to offer.

8.6.2. On human-environment relationships

In the same way that the effects of remoteness on livelihoods and lifestyles are ambivalent, the relation between humans and their biophysical environment may appear contradictory. It is made of mutual links of attachment, amenities, and spiritual energy but also dangers, risks, and fears. Mountainous communities such as those in the Bartang Valley have long developed ways to cohabit with their biophysical environment and disasters play a central role in their lives. Studies are still needed to deeply explore these relations and the way spirituality, religious rituals, music, dances, and other common practices integrate the biophysical environment and shape the human-environment relationships in the Pamirs. I believe such in-depth studies could be a way forward towards a decolonising geography attached to emic apprehension and explanation of the environment and the world (see Parsons 2019). The implication of these reflections is that we need to find ways to preserve human-environment bonds while dealing with disasters and their adverse effects. Adaptation or mitigation projects in Bartang should fully integrate and protect relationships between humans and their multifunctional and polysemic environments.

8.6.3. On rural-urban circulations

Given the contradiction between the values and drawbacks of remoteness and the close relationship between the Bartangis and their biophysical environment, residents who wish to live in the Valley and preserve the bonds they have developed with their environment often insist on the importance of circulations to their livelihoods. Some regard the Valley as a convenient place for unemployed people who are more prone to enjoy calm and immobility, such as the elderly, children, and primary caretakers, who are often women. In this view, the homeland is the place of birth, childhood, and retirement while the more active part of adult life occurs in Khorog, Dushanbe, or Moscow. As such, for many Bartangis the question is not so much about leaving or staying but about circulating and managing to live a translocal life between the Valley and the cities. For the Bartangis, the goal is to earn enough income to build a house in the Valley and/or to support their parents, children, spouse, or relatives there. In this sense, we understand the value of examining mobility systems at the scale of a household and over the course of a lifetime. For most Bartangi households, a crucial economic issue is to have at least one family member remitting income from afar. As such, mobility potentials as well as working skills are crucial. Some migrants or aspiring migrants view mobility as positive in that it can offer new skills and experiences, while others are more clearly involuntarily mobile, leaving because they have no choice but to travel to a place where they are often subject to xenophobia and exploitation. One implication of this is that rural communities such as the Bartangis need facilitated access to different forms of circulations. Policies should integrate such needs. The living conditions of migrants in Dushanbe and Russia also need to be supported by relevant governmental policies as they obviously align with the critical need to recognise human rights such as dignity, safety, and access to healthcare and housing, for instance.

8.6.4. Crucial sustainability issues in the Bartang Valley

The need for out-migration in Bartang is fuelled by severe socioeconomic vulnerabilities, which, I believe, this dissertation has clearly exposed. Thirty years after the demise of the Soviet

Union, the Valley struggles with energy poverty, food insecurity, and lack of healthcare facilities. These issues are difficult to deal with for residents, especially given that during the Soviet era some villages became accustomed to a higher standard of living through a food provisioning system, access to electricity through petrol generators, and helicopters available for emergency situations. Given the dry climate and crucial need for firewood, many areas in the VMKB are now facing desertification. At the time of writing this, electricity has not been functioning for months in the village of Basid. While the village is fitted with a small hydropower station, installed in 2013 by the Swiss organisation PamirLink[97] which usually provides electricity for the whole village, frequent protracted shortages compel people to return to firewood and candles. Given the scarcity of wood resources, residents increasingly have to travel higher or further to fetch some. Purchasing coal and firewood place a great burden on the economy of households. Food and energy security and access to healthcare are all part of the UN Sustainable Development Goals[98] and need to be improved quickly. The demographic growth in the region[99] makes these issues even more pressing. Given the acute poverty in the region, the predicted economic crisis following the COVID-19 pandemic, and environmental hazards acting as threat multipliers, these issues are far from being solved.

8.6.5. Political responsibilities

Who is responsible for addressing the aforementioned issues? Decades of the Soviet provisioning system increased the Bartangi's dependence on outside organisations. Some elderly Bartangi interlocutors expressed that the Soviet provisioning system was so strong and generous that it made the Bartangis lazy. Some say they became used to easy access to food, clothes, and cheap transportation. Since the 1990s the Aga Khan Development Network has become a forefront actor on which the Bartangis count for economic development and support during crises. In the village of Basid, some of my friends explained that all development projects come from afar. For instance, the Aga Khan Development Project has been involved in the construction of irrigation channels and the construction of toilets, a Swiss organisation constructed the hydropower station, and a German organisation built a dispensary and public toilets in 2019 and a kindergarten whose construction is currently near completion. Swiss and German organisations work in close cooperation with residents who are substantially involved in construction projects. For many everyday matters, the Bartangis are used to dealing with vulnerabilities and disruptions on their own. They usually don't wait for outside support to clear or rebuild blocked or damaged roads, or to access firewood, for instance. Dangerous construction projects, such as building irrigation channels on steep mountainsides, are sometimes carried out voluntarily without any support. Some residents are fully engaged in the development and maintenance of shared infrastructure, sometimes at the expense of their lives. For instance, Shavkat, a man in his 30s, died while voluntarily repairing an electric pole during my final fieldwork in June 2020. My Bartangi interlocutors' emphasis on the isolation of their Valley from state institutions and the free spirit of its residents reminded me of James Scott's

[97] https://www.pamirenergie.ch/
[98] https://sdgs.un.org/goals
[99] Although data are hard to find, in many villages the rapid construction of houses in the past years seem to underline demographic growth.

famous thesis on anarchy in remote mountainous settlements of Southeast Asia (2009). After decades of heavy influence of the Soviet institutions in the Valley, the strong political transformation following the independence of Tajikistan has made state institutions more distant and the Bartangis feel marginal, both in terms of political exclusion and relative emancipation. While I can't say that the Bartangis have mastered "the art of not being governed" (to quote the title of Scott's book [2009]) they certainly navigate political isolation and marginality with intent to protect the tranquillity of their Valley-haven. Although the state may be present in administrative and education systems throughout the region and while the Bartangis may be increasingly mobile, they often mention notions of *panohgoh* [refuge] and independence when describing their home, echoing a particular form of freedom experienced in mountainous communities around the world.

If mankind entwines itself in the clutches of tyranny,

we will proclaim in the mountains

the right to freedom.

Reinhart 2020, 156 (Quote from the summit register
of Lößnitzturm, Germany,
April 10 1966)

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10. APPENDICES

10. 1 INTERVIEW GUIDE 1: CLIMATE CHANGE PERCEPTIONS AND MOBILITY

This interview guide was designed as a basis for interviews although many interviews were conducted rather freely. The guide has evolved throughout the years, but most interviews in 2017 have featured the questions below.

1. Demographic and socioeconomic profile

- name of the interviewee
- place of birth
- number of people in the household
- main dwelling place
- do you have family members living in other parts of Tajikistan? Abroad? If yes, do they send remittances to you?
- Have you received any other help/assistance in the last 12 months?

1.1- What are your household's main possessions?

1.2- Where do you purchase/access the goods and services that your household consumes?

2. Example of the 2016-2017 winter

2.1- Would you say that last winter was a regular or a special one in terms of weather? Why?

2.2- (if emphasis on particularities/difficulties) Was any help provided to your household? (from family members or the government, other organisations…) Or to your village?

3. Perceptions of climate change

3.1- Do you think the climate is changing in your village? If yes, how?

3.2- What do you know about the global trends of climate change (in the world)?
3.2.1- If any knowledge: how did you learn about these trends?
3.2.2- If any knowledge 2: do you think these trends have consequences for your village?

3.3- Do you know anything about weather-related rituals in Bartang?
3.3.1- If yes, have you practiced or witnessed some?

3.4- Have you ever experienced environmental hazards in your village (floods, landslides, avalanches, mudflows, rockslides, earthquakes…)?

3.5- What consequences did they have (on people, health, food security, livelihoods, and infrastructures)?

3.6- Do you feel safe living in this village?

4. Mobility habits

4.1- Do you often go out of the village/valley? Does someone in your household often go out of the village/valley?
4.1.1- If yes, where to / for what purpose / what frequency?
4.1.2- If no, how do you access goods and services from outside the valley?

4.2- How easy is it to travel from your village? Have you experienced difficulties in terms of mobility?

4.3- (If road closures are mentioned) What are the main consequences (on people, health, food security, livelihoods, and infrastructures) of road closures for your household? For your village?

4.4- Do you know anything about mobility-related rituals in Bartang?
4.4.1- If yes, have you practiced or witnessed some?

4.5- Would you say your village is well-connected or isolated?
4.5.1- (according to the answer) Is it positive/negative/both?

4.6- How do you imagine the future of your village in terms of accessibility and mobility?

If important changes are highlighted…
5. Adaptive capacity

5.1- Have you (yourself or your household) taken any measures to adapt to changes?
5.1.1- If yes, of which nature? (adaptation in situ, more assistance from outside…)

5.2- Can you think of other possible strategies which would help your household/village?

> Would you have any photographs/videos about environmental hazards in the Valley that you would be ready to share with us?

10. 2 INTERVIEW GUIDE 2: MOBILITY CAPACITIES AND ASPIRATIONS (MOTILITY AND PLACE ATTACHMENT

This interview guide was designed as a basis for interviews although many interviews were conducted rather freely. The guide has evolved throughout the years, but most interviews in 2018 and 2019 have featured the questions below:

1. Demographic profile

- name of the interviewee
- place of birth
- number of people in the household
- main dwelling place

2. Mobility habits and history

2.1- Do you sometimes go out of the village? If yes, to where?

2.2- When was the last time you left the village? Where did you go?

2.3- What is the farthest you have ever been from your village?

2.4- Do you have relatives living abroad? In other parts of Tajikistan?

2.5- How would you say that mobility within the Bartang Valley has evolved since you were a kid?

2.6- (depending on the age of the interviewee) According to you, what are the biggest changes in terms of mobility between the Soviet times and now?

3. Accessibility of the Valley and individual mobility skills

3.1- How do you usually travel within/from the Valley?

3.2- Would you say it is easy/hard to travel within/from the Valley?

3.3- Have you ever traveled in a helicopter from the Valley? If yes, when and for what reason?

3.4- Have you ever walked to Vomar? If yes, how many times/how often approximately?

3.5- Do you (still) walk long distances nowadays?

3.6- Was it/is it hard for you to walk long distances?

3.7- How would you describe the Bartang Road?

3.8- Do you think that weather events have consequences on mobility within the Valley?

4. Migrations and place attachment

4.1- Have you spent all of your life living in this village?

4.2- (If the person has lived in (an)other place(s)) Which of these places offer better living conditions? Which one do you prefer?

4.3- What are for you the main advantages and disadvantages of living in this village?

4.4- Would you like to live somewhere else?

4.5- For you, what is the meaning of *watan?*