

A mobilities lens to the human mobility-environmental change nexus

June 6 & 7 June 2019
Wageningen University, The Netherlands

Program



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Symposium venue:

Schip van Blaauw
Generaal Foulkesweg 72
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Abstract of the Symposium

The relation between environmental change and human migration has often been discussed through two dominant discursive lenses: the one conceptualising climate migrants as a danger to be prevented, and the other conceptualising it as an adaptation strategy through which migrants can (and should) enhance their resilience to environmental changes. Both perspectives have received critique: the former for raising unfounded alarmism based on questionable projections, and the latter for romanticizing the detrimental effects of climate change and placing the responsibility for adaptation with the individual migrant.

In this symposium, we want to explore an alternative lens and way forward by introducing the *mobilities perspective* to the field of climate change- and environmentally-induced human mobility, originating from the disciplines of sociology and human geography (see in particular the work of Sheller and Urry). As opposed to just assuming what migration is or what the implications of moving will be, it centres on understanding the movement itself: How do they move, where do they go, who stays behind, and how does this affect them? What role does the environment play in the different phases of migration trajectories? As such, it draws attention to the complexity of migration trajectories, the relationship between mobility and immobility as well as the role of unequal power relations as important issues for better conceptualizing the climate change-migration nexus. This contributes to a more grounded and dynamic understanding of the subject able to better capture its diverse character.

Adding to that, a mobilities lens enables an analysis of how human movements (e.g. migration or immobilities) intersect with other with mobile dynamics, such as information, social networks, transport systems, or with the dynamism of environmental events themselves. As such, adopting a mobilities lens can help to move the field of environmental migration beyond static perceptions of the phenomenon, centring on how human mobility or immobility is a product of an active intersection of social, informational and environmental processes.

Next to exploring a mobilities perspective together with scholars from the field of the environmental change-human mobility nexus, the symposium aims to connect with scholars working on other types of migration and on mobilities more generally.

Programme overview

Thursday, June 6

9:00-9:30	Symposium Introduction and Coffee/Tea Ingrid Boas and Hanne Wiegel
9:30-11:00	Panel 1: Interrogating 'environmental mobilities' and their governance Chair and discussant: Giovanni Bettini 1 Hanne Wiegel: Thinking beyond the divide – A mobilities perspective on migration under environmental change 2 David Durand-Delacre: Setting the 'climate migrant' label in motion. A review of concepts for the study of a mobile idea 3 Andrew Baldwin: Mobility Justice and Kinopolitics: Towards the recalibration of mobility and environmental change 4 Sarah L. Nash: Recalling decisions past: improvising a policy framework on climate change and human mobility
11:00-11:15	Break
11:15-12:45	Panel 2: Environmental Changes and Migration Motivations Chair and discussant: Helen Adams 1 Elodie Hut: Appraising the role of the environment as a shaping element of migrants' fragmented journeys 2 Kees van de Geest: Local perspectives of climate change, habitability, migration and development in the Marshall Islands 3 Lothar Smith & Francis Jarawura: The town is always near. Climate change, mobility and spaces of connection for the youth of rural, northern Ghana
12:45-13:45	Lunch at the Symposium venue
13:45-15:15	Panel 3: (Im)mobilities, infrastructures and place Chair and discussant: Harald Sterly 1 Caroline Zickgraf: (Im)mobilities and climate change: Locating environmental immobility in theory and practice 2 Suzy Blondin: Climate change impacting mobilities in Tajikistan 3 Helen Adams: Mobility power geometries and prioritizing place in climate change migration 4 Jeroen Warner and Hasan Ashraf: Flyovers and takeovers - How land and water grab in 3D redistributes mobility in the New Dhaka
15:15-15:30	Break

15:30-17:00	<p>Panel 4: Following what, when and where to? Reflecting on mobile methods in migration research</p> <p>Chair and discussant: Mirjam de Bruijn</p> <p>1 Ingrid Boas: Following what, when and where to? The case of tracing environmentally-related migration</p> <p>2 Joris Schapendonk: Tracing the positionality of a mobile researcher: Personal reflections on a trajectory ethnography</p> <p>3 Annemiek Pas Schrijver: Reflection on mobility and staying as a method in studying pastoralists in Northern Kenya</p> <p>4 Silvan Pollozek: Researching the Travel of Information within Institutional Ecologies of European Border Control</p>
17:00-17:45	<p>Wrap-up Day 1 Carol Farbotko, Caroline Zickgraf, Andrew Baldwin (facilitated by Ingrid Boas)</p>
17.30-19:00	<p>'Borrel' (Dutch for 'drinks and bites') At the Symposium venue Then walking to the restaurant together</p>
From 19:15	<p>Dinner At Colors World Food</p>

Friday, June 7

9:00-9:15	<p>Introduction Day 2 and Coffee/Tea Ingrid Boas and Hanne Wiegel</p>
9:15-10:45	<p>Panel 5: Transformative and translocal perspectives to migration in the context of environmental change</p> <p>Chair and discussant: Lothar Smith</p> <p>1 Harald Sterly & Patrick Sakdapolrak: When does Migration as Adaption work? Evidence from Thailand, through a Translocal Social Resilience Perspective</p> <p>2 Samuel Litaer: Impacts of mobilities on transformative resilience and adaptation to environmental changes: policies, experts and perceptions in home communities of North-Eastern Senegal</p> <p>3 Carol Farbotko: Climate displacement and the right to return</p> <p>4 Basundhara Tripathy Furlong: Social Networks and Social capital: Field experience from environmentally affected Southwest Bangladesh</p>
10:45-11:00	<p>Break</p>

11:00-12:30	<p>Panel 6: Beyond the traditional cases of environmental migration: the intersection of mobilities</p> <p>Chair and discussant: Machiel Lamers</p> <p>1 Hasan Ashraf & Jeroen Warner: Water flows, Rickshaw drivers and the (un)making of the city in Dhaka, Bangladesh</p> <p>2 Ethemcan Turhan: Seasonal agricultural labour, climate change adaptation and uneven mobilities in Turkey</p> <p>3 Simon Bush: Labour, inclusiveness and the underlying vulnerabilities of working in Southeast Asia’s seafood sector</p> <p>4 José Barrena Ruiz: Governing nature-based tourism’s mobility in national park Torres del Paine, Chilean Southern Patagonia</p>
12:30-13:30	<p>Lunch at the Symposium Venue</p>
13:30-15:00	<p>Panel 7: Environmental mobilities and the digital: networking and governing</p> <p>Chair and discussant: Joris Schapendonk</p> <p>1 Giovanni Bettini: Clouding Skies - Digital approaches to 'Loss and Damage' associated with climate change, and the algorithmization of injustice in a warming world</p> <p>2 Ingrid Boas: Grounding big data on climate-induced human mobility</p> <p>3 Lucia Guaita: Chennai emigrants in India establishing digital networks crucial after Chennai floods</p> <p>4 Mirjam de Bruijn: African Mobile Communities: technologies of linking 'global shadows'</p>
15:00-16:00	<p>Wrap-up Day 2 and Symposium Conclusions Carol Farbotko, Giovanni Bettini and Patrick Sakdapolrak (facilitated by Ingrid Boas)</p>

Panel set-up

Set-up of normal panels:

- * Presentations can last between 10-12 minutes. Please bring your PowerPoint on a USB stick.
- * Discussants have a total of 10 minutes
- * Overall set-up: 50 minutes presentation, 10 minutes discussant, 30 minutes Q&A

Set-up of wrap-up panels:

The three selected panellists are asked to reflect on the draft of a collective high-impact that we hope to write as an outcome of the symposium, based on the discussions and presentations they heard that day. This will be followed by a discussion with the whole group. For more details, see pages 11-13.

Information on Logistics

Travel to Wageningen

Wageningen is located in the centre of the Netherlands and is easily reachable by car and public transport. When traveling by public transport, we recommend using travel planner <http://9292.nl/en#> when planning your journey from the airport.

IMPORTANT: Please keep the original public transport tickets for the reimbursement (see p. 28)

By Public Transport from Schiphol Airport

The closest airport is Schiphol (Amsterdam). Enter Arrivals and follow the signs from Schiphol Arrival Hall to the Railway Station: "to the trains".

At the train station you can purchase a ticket to "Ede-Wageningen" from one of the yellow vending machines, or at the Service Desk (please, book 2nd class tickets).

Note that while all of the vending machines accept debit cards, only some accept credit cards (that is clearly indicated at the top of the machines).

The tickets are not restricted to a specific connection or departure time. It is easiest to take the intercity train direction "Nijmegen" which departs twice per hour (at ...:00 or ...:30). Get off at "Ede-Wageningen" which is the 5th stop. The train journey will take around 1 hour.

By Public transport from Amsterdam city

There are direct trains between Amsterdam Central Station and Ede-Wageningen station. They depart twice an hour (...:54 or ...:24). The train journey will take around 1 hour. You can buy tickets at the vending machines in the station building, or at the Service Desk.

Public transport from train station Ede-Wageningen to the hotel

From Ede-Wageningen station, take bus 84, 86 or 88. You can purchase your bus ticket in the bus (pay with debit or credit card, no cash). Get off at the final stop called "Wageningen bus station".

From there it is a 5 minute walk to the hotel. With your back to the bus station, cross the street (Lawickse Allee) at the traffic lights near the bank ABN-AMRO. Turn to your right, and walk along the Lawickse Allee for around 5 minutes (passing amongst others Domino's Pizza, Lidl and a bike shop), until you see the WICC Hotel and Congress Centre on your left (see also the map further below).

By Public transport from Germany/through Arnhem

Instead of changing in Arnhem to a train to Ede-Wageningen (and then a bus from there), it is easier to take a bus from Arnhem Central to Wageningen Bus station (last stop). Buses 51 and 352 run regularly, and reach Wageningen in 40-45 minutes. Tickets costs around 8 Euros and can be bought from the chauffer (with debit or credit card, no cash). For the schedule and other travel information, you can check <http://9292.nl/en#> or the information board in Arnhem.

You can find the information about how to reach the hotel from the bus station in the section above.

The Hotel

We have booked rooms for you in the

WICC Wageningen Hotel and Congress Centre,
Lawickse Allee 9,
Wageningen.
www.wicc.nl/en/hotel-wageningen/

Due to availability, we booked some double rooms and some single rooms, but all of them are of course for single use. Breakfast is included.

Check in after 2pm, check out before 11am.

The Symposium Venue

The symposium will take place at:

Schip van Blaauw
Generaal Foulkesweg 72,
6703 BW Wageningen
<http://www.schipvanblaauw.nl/>

For the participants staying in the hotel, we will walk together to the symposium venue in the mornings (around 15-20 mins). We gather at the reception desk of the hotel and leave there at 08:40.

For those coming to Wageningen by public transport on the morning of June 6, you can

- walk to the location from the Wageningen Bus Station, which takes ca 15 mins (see map below),
or
- take a bus to bus stop Arboretumlaan (first stop from the bus station with busses 51, 56, 352)
and then walk 10 mins to the venue.

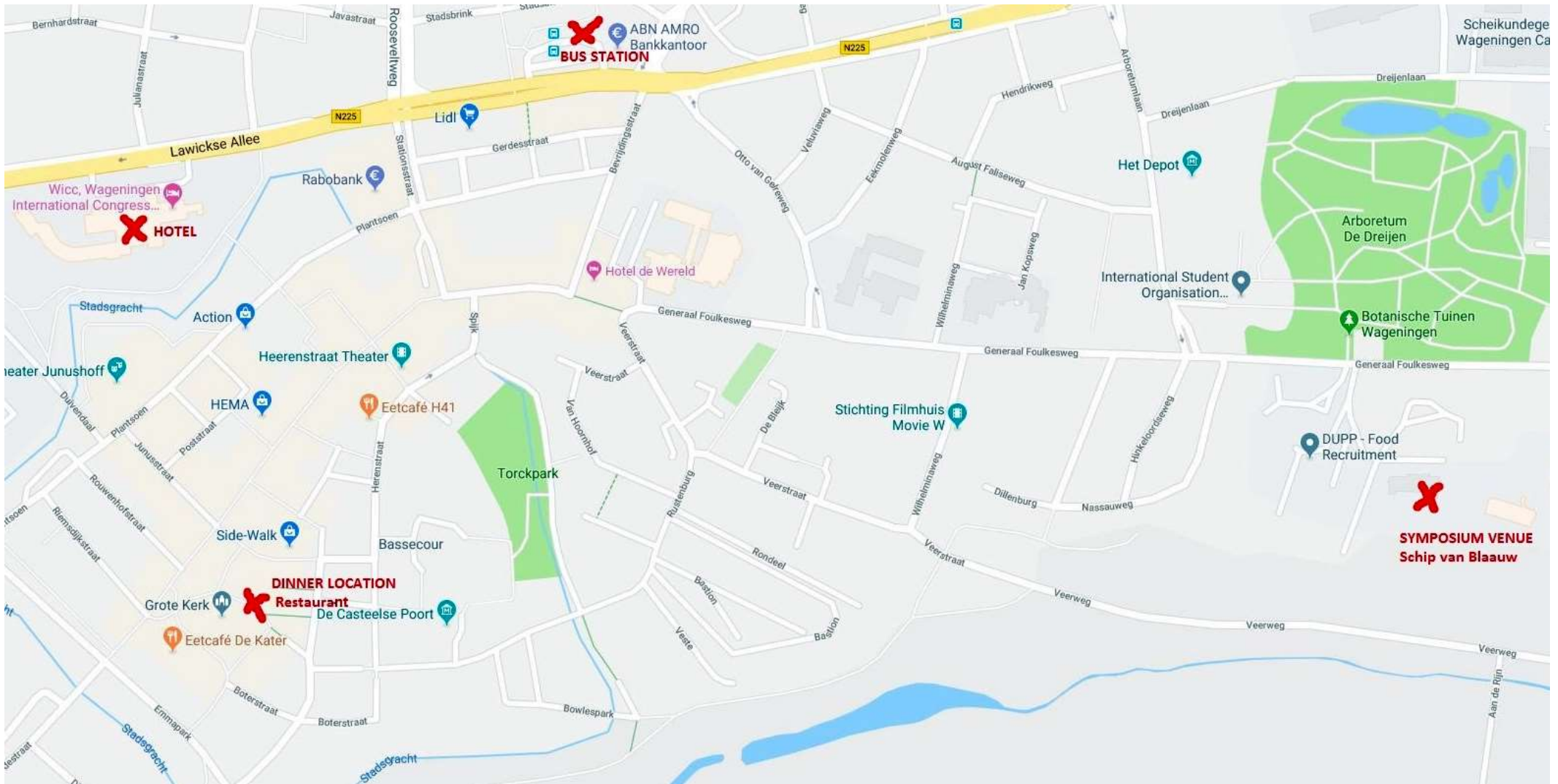
For those coming by car: parking facilities at the venue itself are limited, but there should be enough options for parking in the neighbourhood.

The Restaurant: Colors World Food (dinner on June 6)

We will walk together from the Symposium Venue to the restaurant, located at

Markt 15
6701CX Wageningen

From there, it will be a 10min walk back to the hotel.



Draft of collective article

We aim to write a short high-impact article with those interested, as an output of this symposium. The effort is coordinated by Carol Farbotko, Ingrid Boas and Hanne Wiegel. The draft is based on a blog written by Carol Farbotko: <https://www.weforum.org/agenda/2019/02/we-need-a-fresh-approach-to-climate-change-migration/>

Word count: 1000-2000 words, for Nature CC (perspective) or Science (policy forum) or other, 15 refs.

Note: This is a draft text, and on purpose several parts and reference entries are left blank, as it is a piece that you can still contribute to. It will form the basis of our wrap-up panel discussions in the symposium.

We need a fresh approach to climate change migration. This is why

Human mobility associated with climate change is a growing global reality. There are regular warnings about climate change impacts creating significant numbers of displaced people, and presenting an international security risk. <Enter examples of UN or govt organisations doing such warnings>

Yet, sensationalism is no substitute for science. The Intergovernmental Panel on Climate Change clearly states "there are no robust global estimates of future displacement, but there is significant evidence that planning and increased mobility can reduce the human security costs of displacement from extreme weather events" (Adger et al. 2014, check ref). The identification of international security risks associated with climate change often draw on extremely large "predictions" without indication of peer-review or methodology (for a critique see Gemenne 2011; Parry et al. 2007). These large numbers circulate as a self-referencing, self-evident claim largely divorced from science, something that should never be tolerated in evidence-based policy. The climate migration risk to international security should derive its legitimacy from science not sensationalism.

We call for a mobilities approach as a way forward. The world is a complex system already in flux (Urry 2007; Sheller and Urry 2006). A mobilities perspective can direct fruitful attention to the agency and wellbeing of mobile people because it focuses less on the artificial question of what causes people to move, and more on understanding the movement itself and the challenges it entails. Mobility-related risks must be recognized and addressed. But equally, new thinking is needed about mobile forms of livelihood diversification and how existing mobility patterns common to many societies (e.g. pastoralism, seasonal migration) interplay with increasing climate pressures.

A mobilities approach makes those we are writing about central: those affected by climate change (REF). Indeed, we hear significantly less often from those whose lives and homes are in danger (REF). It is even rarer that their wealth of knowledge – based on lived experience in fragile or hazardous places is included in policy and planning. And community-based, participatory research and planning is hardly ever conducted with a focus on the intertwined challenges of mobility and climate change with a focus on ensuring a just human life. This must change. The Global Compact for Migration urges us to "strengthen joint analysis and sharing of information to better map, understand, predict and address migration movements, such as those that may result from sudden-onset and slow onset natural disasters, the adverse effects of climate change, environmental degradation, as well as other precarious situations, while ensuring the effective respect, protection and fulfilment of the human rights of all migrants" (REF). This should start with the genuine inclusion of communities facing serious climate change impacts in the production of knowledge, in policy and in planning.

To achieve this, a fresh mobilities approach to "climate change migration" is needed, captured here in five steps:

1) Do not make assumptions

It should never be assumed that people on the move are problems to be solved, nor do they necessarily want to permanently move to the industrialised world. Instead, <to be written>....

2) Embrace a world in flux

<to be written>

3) Do not ignore immobilities

<to be written>

4) Start from the community scale and build upwards

Since international and national policy frameworks are often thwarted in climate change mobility planning by highly emotive politics, planning could be fruitfully focussed on the community level and be scaled upwards. Communities are neither apolitical nor homogenous; but the scale of communities may be more appropriate to debate and plan for the opportunities and effects of the displacement of individuals, households and communities, particularly within national borders.

This matters even more so as those experiencing stress and fear about losing their homes from slow-onset climate change impacts may benefit from participating in policy and planning processes that are both sensitive to their beliefs and needs, and empower them to make difficult choices. To date, policy and planning for climate change migration has typically been top-down, involving little collaboration with at-risk communities (REF).

Capacity-building for community scale mobility planning is needed globally. This requires creating real opportunities for people living in highly vulnerable places to be active agents in shaping their future <enter a good example >

5) Expand scope beyond crisis-situations

The majority of policy attention is on crisis situations, such as cases of mass evacuations following a cyclone. Yet, a mobilities approach makes us attentive to the everyday challenges people face affecting their ability or desire to move. This requires more attention to the more gradual yet structural environmental changes affecting communities bit by bit. This includes well-known environmental stressors such as drought and sea-level rise, but also concerns subtle dynamics such as shoreline erosion or changes in fish flows due to warmer temperatures negatively affecting local food security. These cases are often overlooked, as they do not affect large groups at once and as such less attractive to the media and donors (Boas et al. 2018).

Deterioration into untenable living conditions is less likely when donors, governments and civil society seek to work with communities to build climate resilience, particularly through long-term structural changes such as access to education <expand, make more concrete than just education>. This can achieve results at a fraction of the cost of post-disaster relief or defence operations.

To conclude, <to be written>

References

More to be added

Adger, W.N., J.M. Pulhin, J. Barnett, G.D. Dabelko, G.K. Hovelsrud, M. Levy, Ú. Oswald Spring, and C.H. Vogel (2014) Human security. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge: Cambridge University Press, p. 755-791.

Boas, I., S. Kloppenburg, J. van Leeuwen, and M. Lamers (2018) Environmental Mobilities: An Alternative Lens to Global Environmental Governance. *Global Environmental Politics* 18 (4): 107 – 126.

Gemenne, F. (2011) Why the numbers don't add up: A review of estimates and predictions of people displaced by environmental changes. *Global Environmental Change*, **21S**, S41-S49.

Parry, M.L., O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds) (2007) *Climate Change 2007: Working Group II: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, UK and USA: Cambridge University Press.

Sheller, M., and J. Urry (2006) The New Mobilities Paradigm. *Environment and Planning A* 38 (2): 207–226

Urry, J. (2007) *Mobilities*. Cambridge: Polity Press.

Overview of Abstracts

Panel 1: Interrogating 'environmental mobilities' and their governance

1 Hanne Wiegel: Thinking beyond the divide – A mobilities perspective on migration under environmental change

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Academic, political and policy debates on the connection between environmental change and human migration have thus far largely focused on migration drivers and outcomes, resulting in an entrenchment between the 'desolate climate refugee' and the 'environmental migrant as agent of adaptation' discourses. In this intervention, we argue that the mobilities perspective offers an approach that moves beyond the discursive divide by focusing on the grounded practices of mobility and immobility in the context of environmental change. It centres on understanding movement itself: 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? This approach attends to the diverse aspirations and differential capabilities that underlie particular practices of movement or non-movement, reflecting both individual characteristics as well interconnections with uneven power relations across local, regional and global scales. As such, a mobilities approach offers a starting point for an expanded research agenda on environmental im/mobilities. This enables academic analysis and policy discussion of the human (im)mobility-environmental change nexus to become better attuned to the actual practice and heterogeneous needs of those affected.

2 David Durand-Delacré: Setting the 'climate migrant' label in motion. A review of concepts for the study of a mobile idea

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Efforts to identify and designate 'climate migrants' have proven unsuccessful when confronted with the complexity of hard-to-pin-down mobilities. Yet, the elusive figure of the 'climate migrant' continues to capture the attentions of analysts and policy-makers, often under a 'maximalist' project that seeks to demonstrate a causal relation between environmental stress and mobility. This has prompted a diverse and expanding literature concerned with the social/political, discursive, legal or normative aspects of 'climate migration'. Indeed, a number of scholars have highlighted the differing ways in which the 'climate migrant' label has been conceptualised, contested and deployed in various places and times. One limitation of this work is that little attention has yet been paid, despite a number of comparative studies, to how the 'climate migrant' label circulates from one site to another. This begs questions such as: how does the concept of 'climate migration' spread? How does it evolve in the process? What facilitates or hinders its movement? How is it related to the movement of people, objects, representations? A number of literatures in anthropology (e.g. reception studies, ethnographies of documents, or 'friction'), science and technology studies (e.g. translation, contagion & 'carriers'), as well as affective geographies, trans-locality literatures, and others have tackled analogous questions. In this presentation, I review the conceptual and methodological tools these literatures provide; and by applying them to a number of examples – academic studies and representations of climate migrants taken from models, films and the press – I suggest potential avenues for further study of the 'climate migrant' as mobile idea.

3 Andrew Baldwin: Mobility Justice and Kinopolitics: Towards the recalibration of mobility and environmental change

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This paper speculates on how Mimi Sheller's concept of 'mobility justice' (2018) together with Thomas Nail's notion of kinopolitics (2015) might allow for a politically more satisfying approach for grappling with the relationship between climate change and human mobility. This paper uses these entwined concepts to reconsider the ease with which Bangladesh is constructed as a hotspot for climate change-induced migration. Whereas Bangladesh is all too often constructed in the rhetorics of climate change as a site of pending migration, such a view too easily reinforces European epistemologies i.e., historicism, that cast rural to urban migrants in Bangladesh as objects of pity in order to be deserving of humanitarian aid and compassion. Without romanticising urban poverty and migration, the paper argues that this view obscures the wider kinopolitical context of Bangladesh as a distinctive, situated, and uneven regime of global social motion. Using Bangladesh as a test case, it proposes mobility justice and kinopolitics as worthwhile concepts for recalibrating the climate-migration relation.

4 Sarah L. Nash: Recalling decisions past: improvising a policy framework on climate change and human mobility

University of Natural Resources and Life Sciences Vienna | sarah.nash@boku.ac.at

The decisions and declarations of policy communities are often understood as being static, but in the governance of climate change and human mobility change is afoot, with documents being taken and repurposed by the policy community surrounding climate change and human mobility to fashion an improvised policy framework. This framework is made up of constituent parts from policy on climate change, migration, disaster risk reduction, sustainable development, and latterly the international human rights regime and is being constructed and utilised by a variety of different actors to justify and provide a foundation for their work in this area. The first part of this presentation identifies and briefly sketches out this improvised framework and how its constituent pieces are being fitted together.

The second part of this presentation shines a critical light on the framework. Because the constituent parts of this framework are very frequently viewed as already existing, static monoliths, critique of this emergent policy landscape is rarely undertaken. Therefore, this presentation questions underlying assumptions that are being transported into the policy framework, doing so from the perspectives of language and knowledge. The productive effects that these assumptions may have on the governance of human mobility in the context of migration are then considered. Ultimately this presentation poses the question: what boundaries of the thinkable are being erected around climate change and human mobility by the improvised policy framework that is being used as a basis for so much work being carried out on the issue complex? Furthermore, how are these boundaries limiting the options for transformative visions for the future of human mobilities in the context of climate change?

Panel 2: Environmental Changes and Migration Motivations

1 Elodie Hut: Appraising the role of the environment as a shaping element of migrants' fragmented journeys

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When studying the multi-causality of human (im)mobility, environmental changes are increasingly identified as primary migration drivers. At the same time, the minimalist perspective suggests that the situation is in fact more complex, arguing that environmental drivers interact with economic, social, demographic and political factors in shaping migration decision-making and trajectories. As such, we should acknowledge the existence of a continuum between the different drivers and patterns of mobility (e.g. internal and international, temporary and permanent, voluntary and forced). Focusing on the "new mobilities" paradigm, which centers on the study of the movement itself, rather than on drivers or consequences, this presentation will seek to connect the notion of 'fragmented journeys' to environmentally-induced mobility. How can both sudden-onset environmental stressors and slow-onset

environmental changes impact migrants' fragmented journeys, as key elements of contemporary mixed migration flows? This presentation will interrogate the extent to which environmental factors may influence migration journeys in both space and time, from areas of origin to areas of transit and/or destination, throughout the different phases of migration trajectories, as opposed to examining them as mere mobility drivers. Drawing from examples from the MIGRADAPT project – which focuses on examining the perceived role of the environment in shaping migration journeys to Belgium from selected areas in DRC, Morocco and Senegal, as well as the conditions under which migration can improve the resilience of communities of origin – this presentation will seek to call for wider research on the matter.

2 Kees van de Geest: Local perspectives of climate change, habitability, migration and development in the Marshall Islands

United Nations University Institute for Environment and Human Security | kgeest@gmail.com

As one of the lowest-lying island nation-states in the world, the Republic of the Marshall Islands (RMI) is acutely vulnerable to sea level rise, flooding and the associated impacts on freshwater supply and habitable land. The number of Marshallese people residing in the U.S. has increased rapidly, from 7,000 in 2000 to 22,000 in 2010, and is currently estimated at 30,000, which is more than a third of the population. While we know that climate change is already affecting the Marshall Islands and that there are significant migration flows, we do not know to what extent people are already migrating because of climate change and habitability problems. And if this is the case, we do not know what the consequences are for migrants and their relatives at home. We conducted 280 questionnaire interviews and so-called "Q sorts" with Marshall Islanders in RMI and the United States to answer these questions. The results show that respondents primarily cite education, healthcare and work as motivations for migration, with a more modest and indirect contribution of environmental drivers. Respondents do identify impacts of climate change on their livelihoods, health and safety, and they do not feel prepared for more severe impacts of climate change in the future. However, they also strongly resist the idea that their islands could become uninhabitable and that they might be forced to leave some day. The majority believes that between now and a future in which climate change poses a more existential threat to them, there will be solutions. The case study findings illustrate an existential dilemma: On the one hand, it is important to be prepared for a future in which islands may become uninhabitable, and to make sure that migration and resettlement can take place in an orderly way that minimizes losses and damages. On the other hand, suggesting migration and resettlement as solutions is extremely sensitive as it sounds like giving up on the islands. Many respondents and other observers feel that this is inappropriate as there is still much uncertainty about the future extent and impacts of sea level rise and the capacity to adapt locally.

3 Lothar Smith & Francis Jarawura: The town is always near. Climate change, mobility and spaces of connection for the youth of rural, northern Ghana

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University for Development Studies Ghana | jarawura@yahoo.com

The world that is slowly emerging is one of increasing fuzzy borders between rural and urban domains, between the capital encapsulated in one domain versus that of another, and in the way social institutions structure individual decision-making, not least that of the youth. Yet youth and mobility are still often conceived as an issue that is particularly rural in the African context. Yet various trends contest this, such as the fact that the population of Africa is increasingly less rural. Also we need to ask just how remote and agrarian the rural population still is, given the fact that so-called rural households in sub-Saharan Africa are involved with seasonal migration and/or other kinds of spatial diversification strategies, thereby pursuing income activities in multiple rural and urban settings. Whilst this diversification pattern has prevailed over the last few decades, the emerging question is whether aggravating ecological circumstances are precipitating a more fundamental shift in household dynamics. Notably, whether the young generation are going to be leaving rural regions for permanent rather than temporary purposes. A meaningful response to that question suggests a logical distinction between a more village-oriented outlook

amongst the rural youth and those who have a wish to be part of the larger global world, through some act of mobility. However in this paper we argue that it may also be of importance to also look at the physical spaces in-between, as a necessary way to reconceptualize the position of the rural youth through mobility, particularly in the face of changes in ecology, economy and society.

Panel 3: (Im)mobilities, infrastructures and place

1 Caroline Zickgraf: (Im)mobilities and climate change: Locating environmental immobility in theory and practice

University of Liege/ Hugo Observatory | caroline.zickgraf@uliege.be

Thus far, most research on the human impacts of climate change has focused on the people displaced, who have come to incarnate the human faces of global warming (Gemenne 2011). However, the people who face the same adverse conditions, but who stay in communities of origin have been relegated to the academic and political backburner. Only recently have scholars noted that 'in the decades ahead millions of people will be unable to move away from locations in which they are extremely vulnerable to environmental change', becoming *trapped populations* (Foresight 2011).

While those 'trapped' or who choose to stay in areas affected by climate change represent a substantial policy issue, there is little empirical work specifically targeting such populations. The scant attention that is afforded to immobility emphasises financial constraints as drivers of immobility (Zickgraf 2018). In other words, it is frequently assumed that people facing climate change yet who do not leave simply cannot afford to move. As an essential part of the mobility spectrum, the complexity of immobility in crisis, including its social and political dimensions, warrants thorough investigation.

In response to these research gaps, from 2015 to 2018, the IMMOBILE project asked why people become (or remain) immobile in the face of climatic and environmental change and then articulated the relationship between migration, on one hand, and immobility, on the other. This contribution locates environmental immobility within mobilities studies, its conceptual complexities, and, finally, illustrates these issues with the findings of the IMMOBILE project. The findings are based on 160 semi-structured interviews conducted in three developing countries experiencing environmental degradation (including but not limited to the impacts of climate change): Senegal, Comoros, and Viet Nam. The presentation delves into the nature of (im)mobility patterns and outcomes as they interact with social, political, economic, environmental and demographic forces. In political spaces that are dominated by a desire to limit human mobility and reinforce sedentary biases, we underline the effects of these discourses, policies, and programmes on people's aspirations and abilities to migrate out of harm's way.

2 Suzy Blondin: Climate change impacting mobilities in Tajikistan

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In the literature on the human mobility-environment nexus, almost no studies have addressed the link between physical accessibility and environmental changes. In the Pamir Mountains of Tajikistan, environmental hazards such as river overflows, rockslides and avalanches frequently block roads and hamper motorised mobility. Studies show that the frequency of such hazards is increasing in the context of global climate change. My research focusses on the link between environmental changes and different forms of mobility within an administrative province, the Autonomous Province of Kuhistoni-Badakhshan. I suggest that the *mobilities paradigm* and notably the concept of *motility* help analyse how inhabitants might get trapped and be faced with involuntary immobility, and how they manage periods of mobility and periods of immobility. Involuntary immobility may result in food insecurity and health issues for the people concerned and this raises the question of *mobility justice* in the region. Despite difficult life conditions and accessibility issues, many inhabitants don't wish to leave their villages permanently. A *mobility justice* perspective is also useful to address people's right to choose where to dwell and to stay in place.

This presentation will draw upon co-itinerant observation of journeys, mobile autoethnography, about 60 interviews with inhabitants and participant observation of everyday life with local families made during 7 months of fieldwork from 2015 to 2018. Videos shot during fieldwork will be part of the presentation. The relevance of the different methods I use will be critically discussed during the presentation.

3 Helen Adams: Mobility power geometries and prioritizing place in climate change migration

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Migration and resettlement will likely persist as strategies to cope with climate change. Place attachment provides a compelling explanation of behaviours to remain and protect under increasing climate risk, countering modernisation narratives and discourses of trapped populations. Thus, knowledge of emotional bonds to place provides rich subjective information that can inform human rights-based, people centred migration and resettlement programmes. In this paper, I apply Massey's ideas of power geometries and progressive sense of place, to highlight the context in which place attachment is formed and influences migration decision-making. Three critiques are central. First, place attachment tends to take a physically-bounded perspective of place. Second, place attachment perspectives tend to ignore the limited choices of those who express emotional bonds to place. Third, place attachment studies tend to characterise places as static, with the first change initiated by climate. Thus, such perspectives ignore the economic and political processes that cause people to live on the geographical and social margins and constrain their choices therein. Drawing on empirical examples of people living under climate shocks and environmental degradation in rural coastal Bangladesh and the Peruvian Andes, this paper examines decisions to stay in context of these broader spatial power geometries. For example, strong place attachment in Bangladesh is expressed in conditions of low mobility and few alternative options. Perceptions of climate change in Peru are incremental to water availability problems driven by mining. Rural lifestyles have been changed by global forces beyond villagers control. When examining the decision to stay in this way, protecting bonds to place requires a focus on adaptation to poverty and conscientization, environmental and procedural justice and active placemaking, utilizing connectivity that so far has had uni-directional influence. Thus, mobilities paradigms provide the means by which bonds to place can be protected, strengthened and leveraged for action under climate change.

4 Jeroen Warner and Hasan Ashraf: Flyovers and takeovers - How land and water grab in 3D redistributes mobility in the New Dhaka

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Land grabbing and evictions within the (now) inner city of Dhaka is a continual process in the remaining spots: slums, open fields, marshlands, sandbars, ponds, dighee, jheel, canals and river beds – a never ending process of acute densification and fierce expansion at the fringes. The uneven history of urbanisation in West Dhaka since the British colonial period is largely divided into two parts. The parts of the "natives," which have remained unplanned until today and densely populated. The other parts were the widely planned and green where the colonial settlers and the local elites resided and commuted to the offices, clubs, Ramna racecourse (now park) and cantonments, and had built gardens and parks for evening walks with the provision of restricted entry. With the end of colonial rule, twice (in 1947 and in 1971), the colonial divide of Dhaka's urbanisation did not end when Dhaka emerged as the capital of independent Bangladesh. Dhaka West has become one of the most densely populated spaces on the earth. When the expansion in the west stopped at the river lines (Turag and Buriganga), Dhaka started to grow vertically, starting in the posh parts since 1990s. In the midst of acute densification and rapid verticalisation of West Dhaka's growth, the Dhaka transport system has become almost unbearable and the vehicle speed on the busiest roads comes down to seven kilometres per hour, close to average walking speed at peak hours.

In search of solving Dhaka's eternal traffic jam, flyovers and elevated expressways have been constructed crisscrossing Dhaka's main roads, intersections, rail crossings and bus terminals and elevated expressway have become the dominant policy lens co-funded by the development banks and donors. The flyovers

connect and enable faster communication between posh and commercial parts (i.e. Bashandhara Residential Area, Mirpur and Dhaka Cantonment, Dhaka Airport, the developing New Dhaka in Purbachal in the East, and Uttora 3rd Phase to Motijheel via metro rail etc.) in the name of those left out on the ground waiting for jam-packed buses. This has resulted into a new layered Dhaka with privileged access catering to the need of the urban affluent as non-motorised vehicles are not allowed on the flyovers on which nearly fifty per cent of Dhaka's urban transport depends. Most of the public bus services run on the ground which has been created a new unequal divide among the Dhaka transport users. The walkers, a significant number of Dhaka urban poor are also barred from getting on the flyovers.

Just like the endeavours to solve the traffic congestion overground, an all-out effort is made underground to deal with the water crisis. The surface water has disappeared fast and the remaining water bodies are severely contaminated and unusable. The heavy dependence on the groundwater pushes an increasing rate of abstraction and depletion that are higher than the pace of aquifer recharge. Urban deep tube wells are drilled deeper and deeper into the earth. The ADB-funded new water pipe network has been installed in some parts of Dhaka to be expanded into other areas to be connected with the plans of five proposed surface water treatment plants around Dhaka. In both cases, the benefits are highly unequal, supporting the circulation of some but not others.

Juxtaposing the new Dhaka water pipes with the developing flyovers, then, this paper aims to offer an analysis of three-dimensional grabs that connects the "horizontal to vertical enclosures" that are currently unfolding in Dhaka and as well as reflects on the subsurface space/resource uses. The new horizontal-vertical space and groundwater enclosures overlap and has been mediating im/mobility in an unequal manner and at the expense of unsustainable environmental transformations.

Panel 4: Following what, when and where to? Reflecting on mobile methods in migration research

Panel Abstract

Mobile methods have become increasingly central to mobilities research (Busher and Urry 2009; Schapendonk et al. 2018; see Marcus 1995 for an early plea). As opposed to studying movements and flows in fixed places, it shifts the focus of analysis towards the following of mobilities "through places" (Schapendonk et al. 2018). It hereby seeks to make research methodologies better fit the dynamic and spatial character of mobilities.

Mobile methods are, however, not necessarily easy to employ, and bring along new challenges. It may not always be feasible to move along, or a trajectory may be hard to trace or a central node in there does not want to be traced. Or the object of study is less mobile than expected or manifests its mobility in a different manner than anticipated. As such, the purpose of this panel is to explore the use, relevance, and constraints of mobile methods. We do so by engaging with different types of mobilities, including: local and transnational mobilities; human or informational mobilities; and varying units of analysis (ranging from tracing migrants to paper objects to understand mobility). We aim to provide a heterogeneous picture of the ways in which mobile methods can be employed, whilst assessing the common challenges and opportunities that come along with their application.

1 Ingrid Boas: Following what, when and where to? The case of tracing environmentally-related migration

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Environmental migration has traditionally been studied at places of origin or destination, with a focus on the factors that push people out and those that attract people to certain places (Black et al. 2011). Little attention has been paid to the steps in between: how people get or are not able to get from A to B, why people choose one destination over another, or what information people use while migrating. Using mobile

methods can provide insight to the debate, as they focus on these in-between steps—the connections—and how these take shape and transform over time.

Nonetheless, using such methods are not as straightforward as it may sound. In my own case, for example for which I trace environmentally-related migration in Bangladesh, I started out somewhat naively by thinking I could move along with migrants to trace how and to where they move. While it was easy to select key sites where people were heavily impacted by environmental changes, it was difficult to spot people on the move as a result of these changes — mainly because decision to leave (and where and how) was often a long and complex relational process. As such, as opposed to real-time following a person on the move, I instead re-oriented my focus to re- or pre-tracing migration trajectories (including imagined and planned ones) and the social network connections in there. By doing so, I aimed to gain better insight into how these long-term decision-making processes worked. I discuss how that played out and what new challenges it at times created.

2 Joris Schapendonk: Tracing the positionality of a mobile researcher: Personal reflections on a trajectory ethnography

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This paper is a critical reflection on my own efforts to put forward an ethnographic approach to study the im/mobility trajectories of Africans towards and inside the EU. The paper first discusses some of the methodological foundations of this 'trajectory ethnography' by discussing Marcus' seminal plea for a multi-sited ethnography and by touching on the so-called mobile methods debate (Urry/Merriman/Salazar). While there are strong overlaps in the methodological principles, I also point to some important differences. From there I discuss ethical dilemmas, relational frictions and personal ambivalences in terms of my own positionality vis-à-vis my interlocutors and the processes I attempt to capture. Thereby I attempt to formulate answers to questions like: What does it mean to follow people through time and geographical space? What are the ethical implications? How to deal with the unequal distribution of mobility rights? How longitudinal is this approach of following people really, and how longitudinal should it be to be insightful? What do we miss if we follow people's trajectories? These questions do not only result in a critical evaluation of my research approach and my shifting positionalities during the research process, it also leads to possible new openings in terms of knowledge production.

3 Annemiek Pas Schrijver: Reflection on mobility and staying as a method in studying pastoralists in Northern Kenya

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This paper is a retrospective reflection on the mobile ethnographic approach I had taken to study pastoral mobility in northern Kenya. My aim was to understand how pastoral mobility is performed in relation to the (re)shaping of territories and access to and control of resources in a rapidly changing social-ecological context. Focusing on people for whom movement with livestock is a rule, I initially drew upon mobile ethnography, which is intrinsically connected to practices of movement through mobile ways of interaction and data collection while not being confined to one place. During the research process, however, I perceived that a mobile engagement was insufficient to understand the dynamics of pastoral systems and the environments in which they exist, as place takes an increasingly important role in the lives of pastoralists who are more than only 'on the move'. In this paper, I critically reflect on my initial assumption of mobility and movement in the lives of pastoralists while overlooking the role of place based realities. I further discuss what the shift in my approach from moving to staying actually tells about changing processes and dynamics of pastoral mobility in relation to wider rural transformations in northern Kenya, and how this informed my research in a broader sense.

4 Silvan Pollozek: Researching the Travel of Information within Institutional Ecologies of European Border Control

In contrast to a lot of work in the realm of mobility studies which focuses on the im/mobilities of subjects and which have developed a set of ‚mobile methods‘ to get a grasp on their routes, sensations, memories and writings (Büscher & Urry 2009; Merriman 2014), this paper deals with the circulation of forms, reports and datasets which are gathered, processed and exchanged between different sites within an institutional ecology of European border control (Star & Ruhelder 1996). For this, it argues, another research approach and different methods are required. Drawing on empirical work on reporting channels within so called Frontex Joint Operations – border control operations, where Frontex, police and coast guard agencies from EU member states and further actors collaborate with each other - this paper will work out three entry points of researching the travel of information within institutional ecologies of European border control.

First, the question of how information is made compatible in order to be processed across and used at different sites directs the investigator to the sites, where classification sets are defined, templates and forms are created, technological solutions are produced and learning devices (how-to manuals etc.) are developed. Such sites, in our case the Frontex Situation Center or the template development section, produce normative accounts of how things should be handled and „inscribe“ programs of action (Latour/Akrich 1992), procedures, rules (Latour 1992) and users (Woolgar 1991) into matter, devices and technologies (Suchman 1993). Second, the question of how such inscriptions are „de-scripted“ (Akrich 1992) in various user settings guides the investigator to different work sites, where information is gathered, validated, forwarded or analyzed. There, it can be observed, how rules, technologies and devices are adapted to local and situative contexts (Suchman 1985) and local actions are adjusted to distant practices and other work sites (Garfinkel 1969). And third, the question of how the circulation of information is coordinated and monitored takes the investigator to sites, where trajectories of information are merged, duplicated or bifurcated. Command and coordination centers for example assemble representatives of different agencies, „punctualize“ (Callon 1986) chains of command, synchronize distant activities and distribute information (Suchman 1997; Latour 1987) or coordinators and liaison officers bifurcate information from one channel into another.

After having outlined a research approach that takes the travel of information as an outcome of infrastructures within institutional ecologies seriously the paper will finally discuss some methods could be helpful and which were not yet discussed in the debate on ‚mobile methods‘.

Panel 5: Transformative and translocal perspectives to migration in the context of environmental change

1 Harald Sterly & Patrick Sakdapolrak: When does Migration as Adaption work? Evidence from Thailand, through a Translocal Social Resilience Perspective

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It is increasingly acknowledged that for a deepened understanding of „migration as adaptation“, both places of origin and destination as well as migrants and those left-behind need to be taken into account. However, an encompassing, conceptually coherent, and empirically operationalizable approach in this direction is still missing.

We therefore propose the concept of „translocal social resilience“ as a way to disentangle the role that migration can play for climate change adaptation. In our understanding, such a concept needs a) to reconsider the units of analysis: from spatially bounded households and communities towards translocally situated livelihood formations, where for example migrant(household)s and household parts at places of destination are understood as a single functional and social unit; b) to be informed by social theory and to take into account the structures (positionality, relations and networks) and the social practices and

agency of migrants and those staying behind, and c) to consider migrants and non-migrants as embedded in social-ecological systems, taking into account multiple scales, in the social (individual, HH, community, etc.), spatial (local, national, global, etc.) and temporal (diurnal, seasonal, generational, etc.) dimensions.

This framework, and data from empirical research in Thailand, allows us to unravel the processes and mechanisms how translocal livelihood strategies and practices affect household resilience to climate risks, and to assess the vulnerability and resilience outcomes of translocal household practices and strategies. We identify key factors that influence in how far 'migration works as adaptation', such as the workplace and housing conditions and social embeddedness of migrants at their place of destination; the positionalities and relations of migrants and non-migrating household members or the socio-economic condition and social-ecological embedding of the household part at the place of origin. Based on these findings, we can draw some governance and practice recommendations that apply both to the specific Thai context and beyond.

2 Samuel Litaer: Impacts of mobilities on transformative resilience and adaptation to environmental changes: policies, experts and perceptions in home communities of North-Eastern Senegal

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In recent years, an interesting paradox seems to emerge in the European migration and development agenda. On the one hand, policymakers increasingly focus on keeping migrants in Africa - out of European territory. On the other hand, old insights from co-development evolving to productive investments from the diaspora increasingly appeal to policymakers. The reasoning behind is that migrants in Europe can help address the so-called root causes of migration, including environmental change impacts in vulnerable home communities. Yet, little is known to which extent and how return migration and diaspora's material and immaterial remittances and initiatives increase or decrease transformative resilience and adaptation. This question is analysed through a triangulation method of literature review, expert's interviews and qualitative 'translocal' case-studies fieldwork with migrants and non-migrants from seven villages in North-Eastern Senegal (Futa Toro region), reconnecting then with community members in environmentally-affected destination areas in the suburbs of Dakar and in Belgium.

First, we analyse grey and academic literature to understand the major academic insights and policies in this field. Second, we assess the perceptions and arguments of experts on this issue. This is done through semi-directed and problem-centred interviews with key stakeholders from governmental and non-governmental organizations, associations, and scholars in Senegal. Finally, we conducted case-studies in seven Peul villages, namely 4 along the Senegal River and 3 more remote villages from the River (5-10 km) with strong international emigration patterns. This qualitative research was done through around two hundred semi-directed interviews of household members and key actors; and 40 focus group discussions of non-migrants from both agricultural and non-agricultural sectors. These allowed to empirically test the diaspora's effective contributions - notably through individual remittances and collective contributions through their hometown associations - on the one hand, and to assess the gap between these mobility contributions and the expectations at policy-level and household-and community-level on the other.

As social and political remittances appeared particularly crucial, the study shows the importance of political ecology theory in understanding the social and environmental risk inequalities and related transformative adaptive capacities between the more mobile communities and households (i.e. those with significantly more members abroad) on the one hand and the less mobile on the other.

3 Carol Farbotko: Climate displacement and the right to return

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This paper makes a case for return rights for climate displaced people. Drawing on an empirical study of return mobility as both indigenous identification and climate resistance in a small, rural, coastal community

in Tuvalu, I highlight the potentially central role of permanent access to climate-impacted homelands to advance cultural resilience in a changing climate. The paper speaks also to a broader agenda of co-development of knowledge with communities at risk of displacement, and the importance of understanding mobility itself as a culturally situated concept.

4 Basundhara Tripathy Furlong – Social Networks and Social capital: Field experience from environmentally affected Southwest Bangladesh

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Migration decisions do not happen in vacuum, they are embedded in social networks. The social ties and closeness of people at the place of origin makes this transition possible. Spatial mobility is based on the maintenance of social ties and networks directing the choice of destination for the migrants. In Padmapukur village, south west of Bangladesh in Koyra Upazila, surrounded by the Sunderbans on either ends, social networks are formed, maintained, strengthened or dissolved based on the interactions between people and their position in society. Families, individuals who are less integrated within the community tend to have reduced access to social networks which is the enabler of migration process. A greater social cohesion among the community indicates a higher chance for migration possibilities.

Debunking the analysis on migration that views lack of social cohesion as a characteristic for increased migration tendencies, Padmapukur context demonstrates otherwise. The climate fragile context increases community cohesion and drives social interdependence, a primary need to withstand disasters and environmental changes. Adapting to the impacts of environmental change along with various other factors, many locals migrate seasonally to rural areas and towns away from the southwest region. In this paper, we map the seasonal migrants who have left a climate affected area and explore the connections between migrants and non-migrants. Through an ethnographic approach and using new mobile methods, this research looks into how these social networks function? If the place of destination is a choice? What is the role of the stayers in this social network? Why social capital matters? and the link between climate change and social ties?

Panel 6: Beyond the traditional cases of environmental migration: the intersection of mobilities

1 Hasan Ashraf, Michelle Kooy & Jeroen Warner: Water flows, Rickshaw drivers and the (un)making of the city in Dhaka, Bangladesh

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The politics of Dhaka's uneven transformations are periodically made visible in the large scale violence of slum fires, mass evictions and student protests. In this paper we contrapose the continual yet episodic violent events contesting the city's transformation with the everyday, normalized violence through which the city is being made and unmade. We do this by approaching the politics of the city from the perspective of its rickshaw drivers, asking how their bodies are produced in the making and unmaking of the city. We take water infrastructure as our entry point for our analysis of the relationship between the bodies of rickshaw drivers and the material flows and social processes through which city is made and unmade. Conceptualizing infrastructure as the continual process of making water circulate, we explore specific sites and moments of intersections between the circulation of bodies of rickshaw drivers and the circulation - and socio-natural transformation- of water. Our analysis of these intersections as relations of co-production documents how bodies in circulation are decayed or repaired through the circulation of water, and how the circulation of water through the city is maintained through these bodies in circulation.

2 Ethemcan Turhan: Seasonal agricultural labour, climate change adaptation and uneven mobilities in Turkey

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Market-oriented agriculture - particularly labour-intensive forms of it - is dependent on mobile and seasonal labour by a large margin. Over-exploitation of natural resources, socio-economic upheaval, and rapid environmental change increasingly mark the limits of such labour-intensive production in the Mediterranean Basin, a region threatened severely by climate change. Increasingly uncertain climatic circumstances, insecure labour conditions, and ever-shifting patterns of human mobility all contribute to persistence of 'cheap food, cheap labour and high profits' logic. Adaptation to climate change emerges as an existential topic at this junction, with significant potentials for instigating transformative change or in the worst case, emboldening the status quo. While changing temporalities and deteriorating environmental conditions reveal complex dynamics in Mediterranean agro-migration system, the protagonists of this activity, migratory seasonal agricultural workers are often side-lined in political ecology, critical human geography, and development studies. Yet with their precarious labour being indispensable to 'save the crops', their livelihoods are under the direct and indirect impacts of multidimensional environmental and socio-economic changes. This paper focuses on the case of seasonal workers within labour-intensive agriculture systems in the eastern Mediterranean with a focus on political economy and legitimizing discourses of climate change adaptation policies. Taking mobility justice as the analytical lens to draw on an empirical case from Turkey, the findings here suggest the need to go beyond the incremental socio-spatial fixes towards a better understanding of the underlying interests and values in transformative adaptation research.

3 Simon R. Bush, Melissa J. Marschke and Ben Belton: Labour, inclusiveness and the underlying vulnerabilities of working in Southeast Asia's seafood sector

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Seafood sustainability in Southeast Asia has expanded from its traditional environmental focus to include labour and migration. From 2013 a series of high profile media studies and NGO campaigns raised concerns surrounding extensive use of unfree labour in off-shore fisheries and seafood processing facilities in Thailand and Indonesia. This scrutiny led to a series of rapid responses by seafood suppliers, governments, retailers and NGOs in both exporting Southeast Asian nations and importing countries in the North. But while these responses have focussed immediate attention on labour rights abuses, they have not necessarily dealt with the underlying causes of which these abuses are symptomatic. We argue that to understand the underlying drivers of unfree labour, attention to three interlinked sites of labour exploitation in the global seafood value chain are needed. First, the conduct of value chain actors. Second, the overall performance inclusivity and equity within value chains. Third, the political economic drivers of migration that influences the conduct of actors in seafood chains and their performance. Combining these three sites we explore the effectiveness of state and private governance initiatives steering towards more fairer and more equitable social conditions within the seafood industry.

4 José Barrena Ruiz: Governing nature-based tourism's mobility in national park Torres del Paine, Chilean Southern Patagonia

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The expansion of protected areas around the world has gone hand-in-hand with the growth of nature-based tourism. This is particularly relevant in remote places that still conserve 'pristine' ecosystems threatened by climate change, as tourists want to go to these places to see and experience 'nature' before it changes irremediable. Though, mainstream conservation continues to be closely aligned to the creation of conservation enclosures, nature-based tourism is a mobile activity shaped by the capacity of tourists for displacement and the socio-material infrastructure allowing flows. However, the literature has scarcely addressed aspects of mobility in governing nature-based tourism. Against this backdrop, we take a flows

and mobilities perspective to analyse nature-based tourism governance in the National Park Torres del Paine in Chilean Southern Patagonia, a region that is thought to be especially affected by climate change. Encompassing mountains, glaciers, rivers and lakes, and hosts a variety of endemic plants and animals, Torres del Paine is the most visited place within Chilean Southern Patagonia. Annual visitor numbers have fluctuated from around 6,000 in the middle of the 1980s, to more than 250,000 in 2017. Particularly, we explore three aspects of mobility in nature-based tourism using the concepts of routes, frictions, and rhythms. We carried out fieldwork in Chilean Southern Patagonia from September 2016 to January 2018, using three methods to develop our research: participant observation, interviews and secondary data analysis. Our findings show that the movement of tourists challenges spatially bounded forms of governance. Instead, we argue, new mobility-sensitive forms of nature-based tourism governance are needed that can complement the use of fixed-boundary conservation enclosures. Using this more nuanced mobility-sensitive perspective enables a means of reconceptualising the governance of nature-based tourism and conservation in a way that goes beyond the spatial boundaries that delimitate protected areas.

Panel 7: Environmental mobilities and the digital: networking and governing

1 Giovanni Bettini & Giovanna Gioli: Clouding Skies - Digital approaches to 'Loss and Damage' associated with climate change, and the algorithmization of injustice in a warming world

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As the prospect of dangerous climate change becomes more and more likely (IPCC 2018), a vast consensus exists over the importance of addressing losses and damage (L&D) residual to mitigation (i.e. preventing climate change) and adaptation (i.e. adjusting in order to avert adverse impacts). In spite of sharp divisions on how to understand and operationalize L&D (Boyd et al 2018, Calliari 2016), most approaches draw on classic environmental governance, with discrete analogic interventions implemented by States and international actors. By and large, L&D is envisioned as being staged in an imagined 'international court of climate justice' that identifies the culprits (emitters), quantifies harm and compensates victims. Notably, substantive discussion on the use of Information and Communication Technologies, algorithms, user-generated data and distributed technologies in the L&D sub-field is conspicuous by its absence, despite the growing popularity of digital technologies and data in many germane policy fields - and in virtually all economic sectors. By taking seriously the prospect of a 'digitalization' of L&D, this paper identifies the seeds of emerging digitalized approaches to L&D through an overview of empirical examples in three key domains associated with L&D - insurance, disaster displacement, and disaster risk reduction and responses. The empirical cases are used to investigate the modes of governance that accompany the digital tools through which L&D could be implemented, and critically interrogates the profound changes in the conceptualization of justice that would accompany a digitalization / algorithmization of L&D and climate change more in general.

2 Ingrid Boas, Ruben Dahm and David Wrathall: Grounding big data on climate-induced human mobility

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The rise of digital technologies and their active presence in daily life has been accompanied by an upsurge of new methodological approaches to study human behavior through big data analytics. We can witness this trend in the study field of environmental change and human migration. For example, big-data researchers seek to fill research gaps about large-scale patterns and future trends of climate-induced migration by examining mobile phone usage during extreme weather events. Whilst such insights can be of use and are highly valued by policy-makers, several risks remain. In particular, big-data analytics and visualizations risk to uncritically feed into commonly held views. For example, if people see an image of large flows of people during a storm, a commonsense conclusion is to think it represents evacuation,

displacement, or migration. As such, assumptions are quickly made that environmental events force millions of people to move. Meanwhile, it can very well be that big data analyses misinterpret detected mobility patterns, detect irrelevant ones or possibly exclude more important vulnerabilities.

We demonstrate and reflect on such risks by sharing our experiences in combining on-site fieldwork with an existing big-data analysis using call-detail records (CDR), which detected anomalous population flows in Bangladesh during cyclone Mahasen. In the original study of the CDR, this mobility was hypothesized to reflect late evacuations from homes. Site-based fieldwork enabled us to discover that the detected patterns in our area of study reflected something different: the movement of fishers seeking to protect their trawlers located at harbor areas. Mobile phones were central to micro-coordinate these livelihood strategies. Moreover, the fieldwork, in conjunction with remote sensing shoreline evolution data, allowed us to identify and study high-risk behaviors of immobility that the CDR analysis was not able to detect. This shows how interpretation remains of central importance in this newly emerging paradigm of science based on large volumes of high-resolution spatiotemporal data, actively aided by the rise of mobile technologies. Simply put, without it, science risks fueling fearful understandings of climate migration based on unverified images of human flows and risks emphasizing those moving over those immobile.

3 Lucia Guaita: Chennai emigrants in India establishing digital networks crucial after Chennai floods

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The heavy floods affecting the South Indian city of Chennai in 2015 stood out as a large-scale example of citizen-driven emergency response. Due to the delayed response of governmental authorities, groups composed of ordinary citizens, celebrities and NGO workers collectively developed an organized mechanism to distribute aid within the immediate hours following the destructive event. Crucial to an effective and prompt field response was the establishment of a digital community. After the overwhelming amount of help requests and photos posted on public figures' social media accounts, some volunteers created specific channels to centralize the flood communication. Since Chennai suffered from network and power shortages, the role of Chennaiite migrants living in different parts of India and abroad played a key role in maintaining Chennai connected. These distance-based volunteers established telephone helplines and verified locations and types of relief needed, assembling then information in databases and updating field volunteer groups with crucial data for planning the aid deliveries around the city. Strong bonds of affective care for the families as well as community responsibility stood at the base of migrants' motivation to become an active and innovative part within the digital volunteer community. The great potential of these migrants was their knowledge of the local language and the city; they worked at odd times, had stable internet connection and could crowdsource supplies and financial aid on behalf of people in Chennai. This mechanism also helped to circumvent the political pressure of government aid, which – after the initial delay – stepped in with the wish to take over volunteers' activity and reshape the response into more traditional schemes of action. Based on a field reconstruction of the emergency response with key informants of the 2015 Chennai floods, this presentation will explore the valuable mobility-immobility collaboration in citizen-driven disaster response.

4 Mirjam de Bruijn: African Mobile Communities: technologies of linking 'global shadows'

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Technologies are appropriated in multiple ways by people and transformed in this process, as are the people and society. Information and Communication Technologies (ICTs) advancement influences the way people construct their society, and formulate/feel issues of belonging. A mobility lens on society shows how communities are mobile in historical becoming and in contemporary realities. The mobility lens seems appropriate to understand African societal dynamics and its relation to migration/diaspora communities in the world. It also questions the relationship of these communities in (global) political economy/ecology relations. Many African migrant or mobile communities are shaped in the margins of these. In this paper I combine ICTs and appropriation with patterns of mobility in Africa to understand how society/communities

are reconstructed in mobile communities in the global shadows. What are the drivers in these mobile communities, both for its continuation and for its very existence? I will argue that the main resource is the increasing frequency and multiplicity of communication through ICTs that do reshape belonging and transform boundaries of mobile communities, but also literally change the materialities that are at the disposal of these communities. To underscore my argument I present case studies of mobility that are related to a.o. environmental changes: pastoral nomads in Mali, and refugees in Chad and Cameroon.

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