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Using Mobile Methods to Trace Networks and Connections: Environmental Migration in the Digital Age

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Dr. Ingrid Boas is assistant professor at the Environmental Policy Group at Wageningen University. Her research is about environmental change, mobilities, governance, and the digital age, with a focus on environmental/climate migration, climate security, and social resilience. She has recently been awarded a personal Veni grant on the subject of environmental migration in the digital age, funded by the Netherlands Organization for Scientific Research

through the innovation impulse. Her most recent book is *Climate Migration and Security: Securitisation as a Strategy in Climate Change Politics* (Routledge, 2015).

Published Articles

Boas, I. (2017). Environmental change and human mobility in the digital age. *Geoforum*, 85, 153–156. doi:10.1016/j.geoforum.2017.07.022

Stojanov, R., Boas, I., Kelman, I., & Duží, B. (2017). Local expert experiences and perceptions of environmentally induced migration from Bangladesh to India. *Asia Pacific Viewpoint*, 58, 347–361. doi:10.1111/apv.12156

Boas, I., & Rothe, D. (2016). From conflict to resilience? Explaining recent changes in climate security discourse and practice. *Environmental Politics*, 25, 613–632.

doi:10.1080/09644016.2016.1160479

Boas, I. (2015). *Climate migration and security: Securitisation as a strategy in climate change politics*. New York, NY: Routledge.

Abstract

This case reflects on the use of mobile methods in a study of environmental migration.

Environmental migration refers to the movement of people in the context of environmental impacts and changes (e.g., storms, droughts, sea-level rise). I studied how this phenomenon takes shape in the digital age. In the digital age, people may be increasingly connected and have more means to exchange information, shaping migrants' mobility decisions. I conducted this research in Bangladesh and Kenya. Mobile methods concentrate on movement, connections, and networks, and are therefore a good fit for my study focused on migration and digital

connectivity. Instead of staying in one or few places during fieldwork, the idea is to follow the connections, to move along with them, and to understand how movement and networking play out in practice. In this case, I reflect on the benefits and the difficulties of using mobile methods by discussing how I used them during my field research in Bangladesh. I stress the benefits of adopting an inductive approach to such research and the need to always be reflexive toward the application of a particular method. In that way, it is possible to adjust to empirical realities and thereby more strongly fulfil the set research objectives.

Learning Outcomes

By the end of this case, students should be able to

- Understand and explain mobile methods and how they can be applied in research
- Apply mobile methods to their own cases, if relevant
- Reflect on the pros and cons of using mobile methods
- Discuss the relevance, risk, and benefits of having an inductive and reflexive research design

Case Study

Project Overview and Context: Environmental Migration in the Digital Age

Environmental migration refers to people needing to leave their homes in the context of slow-onset environmental changes, such as drought, and rapid-onset environmental events, such as floods and storms (e.g., Black et al., 2011; Warner, 2010). This topic is one of increasing

urgency. Between 2008 and 2014, more than 25 million people per year worldwide were uprooted because of rapid-onset disasters, of which 84% were floods and storms (Internal Displacement Monitoring Center [IDMC], 2015). The likelihood of such displacement has increased 60% since 1970 (IDMC, 2015). Climate change can worsen implications for migration (Adger et al., 2014).

Think-tanks and governments often warn about the security implications of environmental migration, fearing for mass flow of people and arguing it may trigger chaos and conflict (for an overview, see Boas, 2015). Much scientific research has in contrast given a more nuanced picture. It shows that environmentally induced migrants often do not want to leave their homes; they try to relocate close by and thus often move within their own country (Black et al., 2011; Foresight, 2011). At least most will not move across continents to seek safety as political refugees do when fleeing war.

I am interested in researching environmentally induced migration (in short, environmental migration) in a detailed manner: to understand what people face on a day-to-day basis, how they deal with environmental risks, and, most importantly, how they decide to leave, as well as how their migration process takes shape and what it looks like.

To do so, I draw on mobile methods for the study of environmental migration. Mobile methods concentrate on understanding movement, social networks, and relations in those networks (Büscher & Urry, 2009; Schapendonk, 2015; Schapendonk & Steel, 2014). It does so by tracing connections or forms of exchange or by moving along with people, all to better capture how mobility and networking play out in practice. This approach allows me to obtain an in-

depth understanding of local migration processes and to better understand its origins and societal implications.

Specifically, in my research project, I studied environmental migration *in the digital age*. Today's social life is heavily influenced by information and communication technologies (ICTs) and these have a tight relationship with patterns of mobility, including migration (e.g., De Bruijn, 2014; Lu et al., 2016; Oiarzabal & Reips, 2012; Urry, 2007). ICTs—such as the usage of mobile phones and smartphones—for example, allow migrants to rapidly exchange information, to find routes, and to access social networks while being on the move (Boas, 2017). The role of ICTs in shaping environmental migration has, however, largely been overlooked in past research.

This case study explains how I used mobile methods in my study on environmental migration in the digital age. I reflect on how mobile methods can be used in practice and the main challenges at play, illustrated through my own fieldwork experiences and lessons learned.

Research Design: The Choice of Using Mobile Methods

Environmental migration is often studied at places of origin or destination, with a focus on the factors that push people out (e.g., environmental disasters, poverty) and those that attract people to certain places (e.g., economic opportunities) (Black et al., 2011). Thus, it largely adopts a place-based approach. However, little attention has been paid to the steps in between: how people get from A to B, why people choose one destination over another, or what information people use while migrating. Using mobile methods can provide additional insight to the debate, as they focus on these in-between steps—the connections—and how these take shape and transform over time.

Furthermore, mobile methods are useful for studying the ICT practices of migrants, that is, their usage of ICTs (e.g., mobile phones) in their daily lives and how that shapes their mobility decisions. I examined the role of these ICT practices in the different steps of the migration process—including decisions to stay or leave, traveling, arriving, dwelling in new destinations, and possible return. In this way, I gained better insight into how mobile phones and the Internet play a role in such decision-making by helping to connect with or shape social relations that may facilitate the movement, as, for example, via a mobile phone a migrant can more easily connect with a relative living in a city he or she may move to.

When designing the project, I intended to move along with selected migrants while conducting semi-structured interviews with them, to note relations between ICT, migration, and networking practices and the role of information exchange. This means moving along with those who lost their houses and are moving to or settling in a new place. Practically, however, as I will discuss in more detail later in this case, this was much more difficult than I had anticipated and therefore required a lot of flexibility on my part.

Research Practicalities: The Feasibility of Using Mobile

Methods

An Inductive Approach

I decided to conduct the research inductively, meaning that I would not start with a grand theory or fixed plan, but let my findings constantly inform my methodological choices and the conceptual development of my research. In this way, I could better ensure that my research actually captures the local context and could adjust itself when the findings warranted it. This

was also practically useful, as mobile methods on the whole is a relatively recent methodology, with only few good examples of how to execute it in practice. I therefore needed to keep an open mind as to how to employ them.

Preparing for Two Case Studies: Kenya and Bangladesh

My research project, which is ongoing, consists of two case studies: Kenya and Bangladesh.

Kenya was selected as a site where drought affects migration, and Bangladesh as a site where floods, river/sea erosion, and storms affect migration. As a first step, I conducted a 2-week research trip to both countries to obtain a better understanding of the migration dynamics and better inform myself on how to employ the mobile methodology.

In Kenya, I concentrated on pastoralists, who move around with their cattle, so moving is a basic characteristic of their livelihood (e.g., De Bruijn, Amadou, Lewa Doksala, & Sangaré, 2017). Using mobile methods—moving along with pastoralists (even if only short trips)—would thus be a relevant tool to understand their livelihood practices, to understand when they are forced to move far away, and to understand when they are actually inhibited from moving due to drought or other problems such as conflicts over land rights. I focused on their ICT usage: how does mobile technology help pastoralists to stay connected; what role does it play in the information exchange about drought, rain, and mobility routes; and how does it play a role when organizing themselves in taking action (e.g., to enter a fenced grassland area)? During the preliminary field visit, some issues did arise. For example, because I am a woman, some of the pastoralist seemed worried for my security, so would they allow me to move along with them? Thus, a main challenge when I return to Kenya to conduct this research will be ensuring that they allow me to stay with them.

Meeting the right gatekeepers may also be essential. Nongovernmental organizations (NGOs) often act as gatekeepers, sometimes even demanding money for access, while local communities may feel that the NGOs do not necessarily represent them. Who to go to for access and security in that context is very sensitive, and getting it right, and reaching some kind of middle ground, is essential for a successful research. To determine the best strategy, it is important to conduct preliminary research trips, ask fellow researchers for advice, and to build a local trust network.

In Bangladesh—the main focus of the remainder of this case—using mobile methods turned out to be more difficult than I had expected. While it was easy to select key sites where environmental migrants may move from or to, it was difficult to spot them on the move—mainly because people did not move far away. For the people in Bangladesh, going to new places often entailed a simple bus or boat ride of 1 to 2 hr, along a regularly travelled route, or they relocated close by, just behind the latest embankment. For these reasons, studying the movement itself did not seem interesting or helpful in obtaining in-depth findings. So my challenge was deciding how to still use a mobile methods approach to map and understand the environmental migration process and ICT usage of the migrants in question.

Mobile Methods in Action

To reflect on the mobile methods in action, I will focus only on the case of Bangladesh on which I did field research in August to December 2017. As mentioned earlier, simply moving along with people seemed not very sensible to get into an in-depth understanding of how environmental migration plays out in Bangladesh. That does not mean that I should throw away

the mobile methods approach, as it remains a useful methodological lens to study the research objective of connectivity, exchange, and networks.

So what I did instead was to map a selection of migration narratives and within those narratives focus on the social networks and information exchange at play. In this way, I could trace what happened—for example, how and why Person X decided on a certain location to move to and how the moving took place. Or I could examine what may happen—for instance, the case of an extended family dispersed across Bangladesh that was actively exchanging information by phone about a possible return to an erosion-affected area that was becoming habitable again. Instead of moving with the people, the social network connections in the migration narrative, and the ideas and information exchanged there, provided direction as to where to go next and who to speak to, to get a full picture of the migration process in question.

Practically, this meant starting with selected places of origin where people could move away from—which were places heavily affected by environmental change (storms or erosion). Rather than decide in advance on the number of narratives I would need, I continued until saturation was reached, meaning that I continued until I covered a set of narratives relevant to the topic of environmental migration in the digital age that represented the particular site where I was doing research. Where my next destination would be and how many people would need to be interviewed depended on the narrative. For example, if a person from an affected area on the south coast of Bangladesh was making arrangements to move to Dhaka, the capital city, then my next location would be the place in Dhaka where he or she was planning to settle and to meet with the key people helping him or her. This was essential to obtain further knowledge about how the migrants stay connected and how that was shaped by access to ICTs.

Meeting with different connections in a network helps to understand the fluidity and complexity of migration decision-making. For instance, a woman whom I interviewed living in Kutubdia (an island in Bangladesh) in a house constantly flooded during high tide (as the dam broke a few years ago) is thinking of moving to a nearby region, which is hillier and therefore safer from flooding. She is actively discussing this with her neighbors, who have similar plans. Some of them are already making phone calls to those living in the hilly areas to discuss updates on the possibilities of moving there. Her husband already works and lives in the hilly area most of the time. When meeting him at the hilly location, he expressed that he did not like the idea of his wife and children moving. He preferred that they stay in Kutubdia, as he did not know how to take care of them in the new place. This illustration exemplifies how, by following such connections, I could obtain a better understanding of how decisions about moving or not moving, to where and when, are made.

These are just a few examples of how mobile methods can be used to gather migration narratives.

Practical Lessons Learned

Lesson 1: Do Not Give Up

The most important lesson of all: do not give up. There will always be setbacks, unexpected developments, or outcomes. Do not shy away from them, but embrace them, and see what these developments mean for your research and how you can accommodate them or learn from them for the future. When stuck, ask others for advice or take some distance from your study for a short while so that you can examine your work critically. Also when interviewees do

not respond at all, or not in the way you expected, reflect on what that means—perhaps there is something wrong in the research approach you chose or in the phrasing of your interview questions. Dare to be self-critical and do not shy away from such criticism.

Lesson 2: Reflect on Your Research Design

Related to Lesson 1, this case shows the importance of constant reflection on the research design and execution. An inductive approach can be helpful in that respect, especially when researching a cultural context different from your own. In this way, from the start, the design is open to alterations and reflexive to the empirical findings. This does not mean that everything goes, as the research objective and general methodological approach (in this case, mobile methods) remain central in providing focus and direction. Nonetheless, keeping an open mind, being flexible when facing setbacks, and constantly reflecting on the alignment between the research objectives and methods are essential to get to a strong outcome. If I had not taken a reflexive attitude as to how to use mobile methods to study environmental migration in the digital age, I would have probably focused too much on searching for people to move with, even when seemingly illogical, losing track of the aim to understand environmental migration on a more detailed and dynamic level.

Lesson 3: Consider Implications for a Subsequent Study

Because I knew from the start that my research would take place in two culturally different countries, I intentionally did not design it as a comparative study. Instead, I used Bangladesh and Kenya as two exemplary in-depth cases of environmental migration in the digital age, with each having a different environmental driver and socio-political context informing the study. By

doing so, slightly altering the use of mobile methods for the case of Bangladesh will not have serious repercussions for my study in Kenya (of which the main part still needs to be conducted).

In Kenya, I will try to employ the mobile methods approach as originally intended, as Kenya's culture of pastoralist movement seems more suitable for that. If that part of the study works out, it may provide a potentially interesting contrast with my use of mobile methods in Bangladesh. Of course, moving with people in Kenya may also turn out to be complex. Similar to the situation in Bangladesh, I will then carefully consider how mobile methods can be used in some alternative form that better fits the local context.

Lesson 4: Gain Insights Into the International Security Debate

As mentioned in the introduction, part of my motivation to study this topic through a context-based, grounded and mobile methodology is to provide a more in-depth understanding of environmental migration. Often this subject is discussed in alarmist terms, making simplistic assumptions about how environmental change and human migration are connected (for an overview of the debate, see Black et al., 2011; Boas, 2015). Meanwhile, analyses using in-depth methods—including those used in my research—demonstrate that how people react to environmental impacts is informed by the socio-political-technical contexts they are in (e.g., Black et al., 2011; Boas, 2017), such as the type of government response, the adaptation measures taken, the level of access to necessary resources to move, access to information, and having somewhere to move to or someone who can help in this process. By focusing on the role of social networks and connectivity, this research and the mobile methods used to study this

topic provide a more informed and in-depth account of how environmental migration plays out in practice.

Conclusion

With regard to the mobile methods used, these turned out to be highly appropriate for this research on environmental migration in the digital age to get a more dynamic understanding of the phenomenon. My research focused on grasping social networks and information exchanges among the social relations within these networks, shaping people's decisions as to whether to migrate and to where. Using mobile methods helped to go beyond a place-based and static understanding of the subject.

While mobile methods can be employed in multiple ways, "mobile methods" can also refer to being mobile as a researcher. This can imply moving along with the people under study (in this case, the migrants), but it can also mean moving along with the information and ideas exchanged within a network from one node to the other. It can even mean tracing a material object, such as a mobile phone, to understand its usage and how it is socially embedded, or an infrastructure, such as a transport network to study traveling, as long as this helps to answer the research objective in question.

When employing mobile methods, it is crucial to constantly reflect on the methods' relevance, usage, implications, and alignment with the research objective. Doing so allows the researcher to better fit the methods with the context under study, to adjust to unexpected developments, and to gain a more in-depth understanding of the topic under study.

Mobile methods can be used to study other subjects than migration. It can be used to better understand all types of people or materials that move, for example, if studying shipping,

tourism, plastic pollution, public transport, or more security-related research subjects such as networks of military alliances or trade routes. On top of that, it can be employed when studying seemingly more static subjects, for example, if studying diplomacy or international negotiations at the United Nations. In such cases, mobile methods may help to detect wider social networks at play informing the negotiations, for example, by conducting interviews and observations, and by tracing connections to see where information comes from that diplomats or negotiators use, how they themselves exchange information, and how this shapes particular actions and decisions. The use of mobile methods is thus not limited to those studying people or objects that are actually on the move but can help generally in providing a lens to study connections and information exchanges at play for a wide range of topics.

Exercises and Discussion Questions

1. Why is it relevant to have a reflexive research design and what does it mean in practice?
2. How do you as a researcher ensure flexibility in your research design and the execution phase, while still reaching the research objectives?
3. What are the risks when being too flexible in your research execution? How would you mitigate such risks?
4. What are the different ways in which mobile methods can be employed? How could they fit with your research?
5. What are the pros and cons of using mobile methods?

Further Reading

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