



Can I move or can I stay? Applying a life course perspective on immobility when facing gradual environmental changes in Morocco

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ABSTRACT

This study applies a life course perspective to immobility in the face of gradual environmental change in Morocco. Using 48 in-depth qualitative interviews in Tangier and Tinghir (Morocco), the study aims to understand how immobility is shaped and structured by the life course stages that people experience. This study enhances our understanding of immobility in gradually degrading environmental contexts, on which there has been little research to date. The findings contrast with the widespread imaginary of 'trapped populations' facing environmental change, with no apparent differences across life course stages and affecting all of the population in a similar fashion. Few respondents referred to an urgent need to migrate in the light of slow-onset environmental changes. Rather, migration aspirations were entangled with other societal changes and employment opportunities. Differences in life course stages became apparent, with people of working age dependent on employment opportunities. Those in younger age groups, especially, desired higher living standards and greater satisfaction with their lives and living conditions, with young people in an important transition period in their lives aspiring to migrate. By contrast, older respondents did not consider migrating to be an option as they were settled and had well-established social/family networks and insufficient resources to start over. Socio-economic status also played a role in the ability to both migrate and stay. The findings of this paper suggest to fully capture all mobility outcomes when examining people's migration aspirations and abilities, these should be considered together with the ability to stay.

1. Introduction

Slow-onset environmental changes impact the mobility outcomes of people living in affected areas. Environmental changes impact the material conditions people are living in, but are not always perceived as the consequence of these environmental changes (Farbotko and Lazrus, 2012). These changes are often felt through the entanglement with other societal factors and trends (Hunter et al., 2015; IOM, 2020) and have a differential impact across groups in society (McLeman and Gemenne, 2018). The impact of these environmental changes varies across individual and household characteristics (Foresight, 2011). Nevertheless, despite broad acknowledgement of such within-group variations, these are not researched as extensively. This is certainly the case when it comes to the life course. Although age is often included as a control variable, the impact of age and life course stages on environmental mobility is rarely explicitly discussed (e.g., Foresight, 2011). In general migration studies, mobility outcomes are found to vary across age and life course

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stages (King et al., 2004; Mortimer and Shanahan, 2002; IOM, 2020). Introducing life course as a factor in environmental mobility could further help researchers understand individual mobility responses to environmental change. Such impacts are expected as the life course affects how people approach and perceive environmental change and risk (e.g., Pyhälä et al., 2016; Poortinga et al., 2019) and how they are attached to place (Adams, 2016). The life course becomes even more relevant when studying immobility within slow-onset environments as these impacts are even more intertwined with the social roles and positions people occupy in society (Warner and Afifi, 2014; Adams, 2016; Zickgraf, 2018; IOM, 2020). Finally, life course affects how people make sense of their immobility (Zickgraf, 2018; Schewel, 2019). This could contribute to the growing research on immobility in the context of environmental change in which people's perceptions of environmental change and how this relates to immobility are still poorly understood (Zickgraf, 2018, 2019). By examining how immobility is approached in two settings that experience slow-onset environmental change in Morocco (Tangier and Tinghir), this study aims to: (1) add to a better conceptualization of immobility in the context of slow-onset environmental change, and (2) highlight the added value of a life course approach to the study of environmental migration.

1.1. Immobility in a context of slow-onset environmental change

Populations that involuntarily stayed when facing environmental change have been portrayed by the influential Foresight report (2011) as 'trapped populations', while people who voluntarily stayed were considered as immobile. Using the concept of trapped populations suggests the immediate urge but inability to migrate in the face of extreme weather events or in low elevation coastal zones threatened by inundation (Lubkemann, 2008; Zickgraf, 2018, 2019). This also resulted in a larger number of studies focusing on immobile groups in the face of abrupt environmental change (Ayebe-Karlsson et al., 2018), shifting attention away from the severe and cumulative impact of slow-onset environmental change on livelihoods, security, wellbeing, and resilience (IOM, 2020). Due to this imaginary, in many of these studies, people's agency and decision-making processes are regarded as limited (Hunter et al., 2015; Adams, 2016). This framing has been influential in shaping the imaginaries on immobility when facing environmental change (Adams, 2016). Mobility decision-making in slow-onset environments is insufficiently approached in the light of broader changes in the social, economic, and political contexts as well as the individual's position herein, neglecting the importance of life course for understanding mobility outcomes (Carling and Schewel, 2018; De Longueville et al., 2020).

To study immobility in a context of slow onset-environmental change, empirical research must move beyond the distinction between involuntary and voluntary immobility, as the sudden and forced urgency to migrate is often absent. The Foresight report (2011) distinguished three criteria for categorizing immobility, namely the need, the desire, and the ability to move. These criteria suggest the importance of making a distinction based on the voluntary nature of immobility, i.e., the need and the desire to move, which are often hard to distinguish from each other. Additionally, this distinction is problematic as it requires that people perceive environmental changes in a similar fashion, are very conscious of these changes and link them to migration (De Longueville et al., 2020; Author blinded for review). Furthermore, focusing on this distinction neglects that migration aspirations – even when fuelled by environmental changes – are shaped and limited by people's migration abilities (Carling, 2002). Finally, these factors mainly examine moving/migrating and therefore neglect the perspective of those who stay.

1.2. Applying a life course approach to immobility

Applying a life course approach to immobility adds to the research domain on environmental mobility in slow-onset change environments for three main reasons: (1) it enhances our understanding of age patterns in migration; (2) it allows us to consider how age and life course stages relate to different roles and positions in society and the household; and (3) it offers a relative approach to the study of environmental migration. First, current global migration reports (e.g., IOM, 2020) reveal that there are clear age patterns. For example, in 2019, approximately 74 per cent of international migrants were in the 20–64 age category, with approximately 14 per cent under 20 years of age and 14 per cent over 65. To understand these age patterns in migration, age should not only be included as a control category in analyses, but attention should be paid to life course stages and how they are related to age. Previous studies have focused on specific age groups or people within one particular life stage, such as the elderly (King et al., 2014; Author, blinded for review), or related to different types of migration, such as labour migrants (De Haas, 2010), a working-age population (Nawrotzki and Bakhtsiyarava, 2017), circular migration (Lubkemann, 2004), or return migration (Cassarino, 2004; Constant and Massey, 2002).

Second, life course refers to 'the age-graded, socially-embedded sequence of roles that connect the phases of life' (Mortimer and Shanahan, 2002, p. xi). It is precisely this range of roles that is relevant to an understanding of immobility (Adams, 2016). The life course is characterized by three main stages: socialization, economic and family production, and retirement. Most migration starts in late adolescence and young adulthood, especially in the transition from education to work. This trend is followed by a subsequent decline in migration. At a later age, some new peaks emerge related to retirement migration or health-related migration or both. This suggests that people usually migrate during life stage transitions (King et al., 2004). Migration is often seen as a way to spread household risk and diversify household incomes (Stark and Bloom, 1985). Hence, young people usually receive more resources to undertake migration. From a household perspective, this makes sense as young people have yet to start a family and can thus establish themselves more easily elsewhere.

Finally, as we are dealing with the impact of environmental 'change' on mobility, this implies that the study of mobility/immobility demands a relative approach. This relative approach consists of social, time, and environmental dimensions. The *social dimension* captures all kinds of relative social deprivation. The *time dimension* takes the frames of reference and periods of change into account over years and generations. The *environmental dimension* characterizes the main nature of environmental change and its impact on society. Consequently, applying a life course approach introduces the time dimension, which is able to capture how the two other

dimensions go hand-in-hand and mutually influence each other. This helps to understand why some age groups are more likely to migrate than others. Furthermore, it provides insight into the changes in relative importance of various drivers of migration in people's lives (Mortimer and Shanahan, 2002; Kley, 2011; Bernard et al., 2014). Applied to immobility, the life course approach underlines the importance of social and community life as well as place attachment during migration decision-making (Lewicka, 2011; Adams, 2016; Altman and Low, 2012; Schewel, 2019). For example, place attachment refers to the feelings, practices, and knowledge related to a place, all of which may vary across the life course (Altman and Low, 2012). Such factors are relevant to immobility research as, in general, most people do not migrate.

2. Study context

A multi-case study was conducted in Morocco, which is geographically located in a region at risk of global change (IPCC, 2014; Nouaceur and Murărescu, 2016; Knippertz et al., 2003; Khattabi et al., 2014). The Moroccan climate is, like other Northern African countries, part of the Mediterranean zone (IPCC, 2014). It is characterized by hot and dry summers, with little precipitation and strong evaporation; mild winters along the coastal strip; and cold winters on the Atlas ranges, Rif and Oriental regions. Within Morocco, there is considerable climate variability between the Atlas Mountains and the coast (Khattabi et al., 2014). Over the last three decades, Morocco has undergone various changes in the annual climate cycle. These are particularly visible in precipitation rates, average temperature levels, drought periods, and the occurrence of extreme events. These climate changes are leading to desertification and an increase in arid land, while also impacting groundwater flows and salinization across Morocco (Schilling et al., 2012).

Economic circumstances in Morocco are highly dependent on climate as the economy is mainly based on rainfed agriculture, which also contributes to volatility and the timid recovery of the other sectors. This climate dependency of economic activities is reflected in the Morocco's GDP (Worldbank, 2019). The Moroccan economy has recently been characterized by macro-economic stability and a low level of inflation despite lower GDP growth in recent years. Poverty levels remain high compared to other countries in the Mediterranean (IMF, 2019). In this context, Morocco's inhabitants are experiencing deteriorating environmental conditions and shocks that could endanger their livelihoods (Wodon et al., 2014), especially people and families working in environmentally dependent sectors and hence more vulnerable to environmental change (e.g., Bazza et al., 2018). Clearly, the risk to livelihoods due to climate change increases when it is intertwined with socio-economic factors (e.g., Wodon et al., 2014). Thus, Morocco's migration history and established transnational migrant networks, as well as the variation in socio-economic development across the country, make it an interesting case study. This long migration history has also had an impact on Moroccan society, specifically in terms of development, family, and gender (Schilling et al., 2012), as well as in terms of remittances (Worldbank, 2019).

3. Methods

The study used Grounded Theory principles (Glaser and Strauss, 1967) to identify the research setting and case selection. The two regions of Tangier and Tinghir were selected based on: 1) high immigration and emigration and 2) environmental change and risks in both regions. The selection of these regions enabled the inclusion of immobile groups, internal migrants, and people with transnational migrant networks (De Haas, 2006; Berriane et al., 2010). There are also clear differences across these regions concerning the environmental/climate risks.

Tinghir is located in the Todgha Valley in the High Atlas. This city lies along an oasis valley which is losing its importance in economic terms due to environmental change and lack of economic investment in modern agricultural methods and practices. The region is highly impacted by precipitation and temperature changes. This has led to drought, desertification, water scarcity, and an increasing number of more extreme weather events (Schilling et al., 2012). In contrast, the city of Tangier is in the Rif region and characterized by diversified and expanding economic activity, which reduces household vulnerability to environmental change to some extent. Tangier receives large flows of transit migrants, many of whom originate from the Rif region (Berriane et al., 2010). The region has a Mediterranean climate, which is also undergoing changes in precipitation and temperature. People moving from the Rif region are also feeling the impact of both increased precipitation and drought (Niang et al., 2014).

Theoretical sampling criteria for the selected respondents in Morocco were: 1) access to migrant networks or migration experience; 2) older than 18 years; 3) gender; and 4) socio-economic status. A snowball technique was used to recruit participants and relied on different selection strategies (March-May 2018). The first group of respondents was selected based on their connections with immigrants living in Europe. The second was selected based on their participation in local associations (e.g., working in local NGOs, attending local conferences, etc.). The third was contacted through intermediaries working in the tourism sector (e.g., hotel owners, people working as tourist guides or providing cleaning services) or through their individual economic activities (e.g., sales, etc.). To fulfil the sampling criteria, more selective sampling strategies were applied during the fieldwork (e.g., asking elderly women to participate). Interview appointments were made by WhatsApp or in person, and interviews were recorded when possible. Thirteen recorded interviews, three non-recorded interviews, and two expert interviews were conducted in Tangier (18 in total), and 24 recorded interviews and six non-recorded interviews were conducted in Tinghir (30 in total). A total of 48 interviews were conducted, of which 21 were with female respondents and 27 with male respondents. Participants' ages ranged from 21 to 70 years.

A constant comparative method was used to analyse the data thematically, facilitated by NVivo10 software. Participants were asked about their perceptions of environmental changes in their surroundings and how these views changed over time and about their knowledge of climate change discourses and migration dynamics. Afterwards, all participants were asked whether they aspired to migrate, their motivations to do so or reasons to stay, and whether these factors are related to the environmental changes they perceived. There was no intention to focus on life course analyses during the design of the topic list for the semi-structured interviews.

However, while the questions were thus not specifically tailored to this approach, our initial open analyses suggested its importance, which led us to explore age-related factors and life course stages in greater depth. The analyses were structured according to the three factors needed to understand immobility according to the Foresight report (2011) mentioned earlier: the need, the desire, and the ability to move. However, as will become clear in the results section, this showed how conceptually difficult it is to distinguish these criteria from each other. The inclusion of all age groups meant that some interviews required translation from Arab and Amazigh by local interpreters. Interviews were mostly conducted in French, but also in Dutch, English, or Spanish and later translated into English if necessary. All names were replaced by pseudonyms to guarantee anonymity.

4. Results

In this section, the need and desire to move (cf. Foresight, 2011) in light of the gradually degrading environment are discussed together first as part of people's migration aspirations. Second, abilities to both migrate and stay in the selected regions are further investigated and discussed. Consecutively, in the following sections, I set out how migration aspirations and abilities respectively are shaped and structured by the life course and wider socio-economic and migration contexts.

4.1. Migration aspirations in a changing environment

In both Tangier and Tinghir, when related to environmental change, people felt that migration seemed necessary when environmental changes impacted and threatened the more traditional ways in which their families secured their livelihoods. Few respondents referred to any 'immediate' or 'urgent' need to move or felt that they were forced to move. The only reference made to an urgent need to migrate was by Zakaria (67-year-old male tourist guide, Tangier, originating from Oujda). He referred to a period of famine (the 'hungry years' – '*Am el boune*'; '*Année du bon*') in Morocco (1940–1948), recalling that 'Many people escaped from the Rif because of the hungry years'. This famine and thus the flight were due to a complex number of factors, such as the second world war, during which Morocco had to provide food for France, combined with drought (Aghrab, 2006). This suggests that such environmental change only urgently impacts the need to migrate when it affects a larger group encompassing all age categories and when the consequences are severe or sudden and with a long-term impact. Additionally, it is also easier to retrospectively reflect on this need to migrate from an environmental perspective.

As agricultural activities are the first to be impacted by slow-onset environmental changes, the role or potential of agricultural production in people's lives is an important factor in the perception of the need to migrate due to environmental change. Nonetheless, due to the gradual nature of the environmental changes experienced, this need was mainly interpreted in terms of securing one's livelihood instead of as an urgent event that immediately displaces everyone. This is illustrated by Loubna (25-year-old female migrant living in Istanbul, but originally from Ouarzazate and visiting at the time of the fieldwork):

Loubna: 'Climate change affects people in a way that it pushes them to leave their hometown. Why? Because they rely on the rain to feed their animals, as I said before, and their families. And when it's not raining because of climate change, they cannot do this anymore. So they have to get out of their hometown and go to some bigger cities to find some job opportunities which is not always easy. Most of the time they're not highly skilled so they work in some very difficult jobs which are not good paying jobs. But they go there so that they can have salary at the end of the month, and help support their families, financially speaking. So it's affecting them in a way that even staying in their hometown, even if sometimes the emotional bond is so strong, is impossible. Because if it's not raining, you cannot have water, if you don't have water, there is no life'.

Interviewer: 'These migrants are men and women or only ...?'

Loubna: 'First the man goes, and he leaves the family in the countryside. Then, when he starts working, and he can finance renting a house or even a small room or something like that, they can take their family with them. Because they cannot stay so long alone, yes'.

Although people living in Tinghir cited employment opportunities as the main driver of migration, compared to those in Tangier, they more frequently referred to agricultural activities that have been less profitable due to both environmental and societal changes. More specifically, people mentioned the few – or lack of interesting – employment opportunities that would allow them to continue working in agriculture as a migration driver. The results of the increasing desertification and water scarcity, as well as the difficult working conditions and lack of innovation were already visible in this domain. As Ben (51-year-old male alderman, Tinghir community, Tinghir) explained, this is further hindered by the fact that there are insufficient opportunities to work in agriculture: 'There is only limited land, but a lot of people. That's a problem'. Local inheritance regulations and land management practices have resulted in the continuous subdivision of fields into smaller and smaller lots instead of merging them into parcels that are viable for investment. Consequently, young people like Yanis (27-year-old male tourist guide, Tinghir), see agricultural work as a fallback, complementing his other professional activities:

'Yes, I work in agriculture, I am like a joker: if I have tourists, I work with tourists, [if] I don't have [tourists coming for tours] or other jobs, then I work at home in construction, in agriculture, water irrigation, everything, you are alive, you have to do something, everyone is doing something, so you have to do it as well'.

Yanis's interview demonstrates how employment opportunities are affected by environmental changes. However, this was not necessarily perceived as such. For this group, it was difficult to distinguish conceptually between the need and the desire to move/migrate, as suggested by Foresight (2011) since in most cases, this need was also related to the search for a 'better life' and part of

broader migration and socio-economic changes. Hence, migration aspirations were not always seen as a necessity, nor related to agricultural production or other changes to the environment. One exception concerned recent political conflict and riots in the Rif region, which made younger people there feel oppressed and led some to fear the authorities. This created a need to migrate to larger cities such as Tangier.

As shown by Loubna's quote, the importance of environmental change for migration reflected existing rural-urban divides and mainly involved work in agriculture (Bouoiyour et al., 2017). This was also visible across research sites. For people living in Tangier, agricultural work had not been an option for a relatively long period of time, as they described conditions in Tangier – an industrialized port city – or in their region of origin as placed where 'drought is normal' (Imane). This meant that migration aspirations were understood in terms of economic factors, as Imane argues:

'... the young people from Oujda were left without work [after closing the borders with Algeria where many used to work]. Especially the ones who did not finish their education and are now unemployed. As Oujda is a small village, there aren't that many opportunities, apart from working in Algeria'.

During her interview, Imane's focus was on 'young people' and certainly those with no educational qualifications. She argued that there were more job opportunities available for young people in larger Moroccan cities and Europe (see below). Apart from the changing socio-economic context and migration dynamics, the analyses indicated a clear difference in the development of migration aspirations according to people's abilities to migrate and how this varies across life course stages, as will be set out in the next section.

4.2. Migration abilities in a changing environment

Not everyone is equally affected by slow-onset environmental change. Rather, people have particular needs that translate into distinct migration aspirations but are also limited by distinct abilities. More specifically, environmental change may put pressure on people working in sectors such as agriculture to migrate. Nonetheless, it is often difficult to realize these migration aspirations due to a lack of means or networks or both. Conversely, this study found that those who are less affected by environmental change, and thus perceive the need to migrate to a lesser extent, have migrant networks, are socio-economically better off, and already work in other less climate-dependent sectors (e.g., education, public institutions, etc.). These groups have the 'luxury' to *choose* whether or not to stay, but also have means to do so if they decide to migrate.

The *ability* to migrate should be interpreted broadly and within the context of societal structures and migration policies. This shows how environmental changes impact people differently according to their socio-economic status as migration requires various resources, as mentioned by Sami (21-year-old male, Tangier):

Sami: 'I would like to work and get a lot of money, and to go to Spain, like other people. You know, the people in Tangier, they love to go to Spain. The only way to go to Spain to work [is] to obtain a lot of money. Because the euro is worth much more than the dirham. For example, one euro is worth 10 dirham, do you understand?'

Interviewer: 'When would you like to go to Spain?'

Sami: '*Mañana* [tomorrow], but I can't. I don't have sufficient money to pay, for example, for a visa, which is more expensive for people here'.

Nonetheless, people's ability to migrate was also affected by the economic crisis in Europe and changes to visa application requirements and migration policies in Morocco and Europe. As Loubna stated:

'Before, yes, that [migration to Europe] was the case, it was easier. But right now Europe is just for highly skilled people, because Europe does not want just the labour, they have enough. They want some very specific skills'.

Thus, this ability to migrate is readily interpreted in terms of having the necessary resources to undertake the migration journey and resettlement, making it easier for wealthier people or people with migrant networks elsewhere to migrate. In regions such as Tinghir, due to the large emigration flows to Europe after the second world war, many people have a large network. As migrants living abroad send remittances home to support people there, these people in many cases are economically better off than others who do not receive remittances. Both factors facilitate the ability to migrate. Conversely, the poorest groups are not able to migrate, while they are also most likely to work in agriculture and would be most in need to migrate. This is in line with Loubna's interview extract where she refers to people who feel they need to migrate despite the 'emotional bonds' they have established with their hometown.

Nevertheless, in contrast to this group of relatively lower-educated people who aspired to migrate, respondents in both Tangier and Tinghir who already occupy a relatively high or economically secure position in their community or Moroccan society did not express any aspiration to migration. Moreover, they were able to *stay*. Nizar, who desired to remain in Morocco, referred to the overall nature of social interaction as well as the sunny and relaxed climate:

'I prefer living in Morocco. Moroccan life is too good here, it's not like Europe, where you have a lot of stress and taxes'.

Similarly, 'the real Tangerines' with no migration background – especially those from higher socio-economic backgrounds – were often very proud of their origin and also able to stay, such as Khalida (40-year-old female artist, Tangier):

'It's the most liberated city here. And what I appreciate about it is that it has everything. [...] We don't need to travel; the world comes to us!'

This is also in line with previous research findings that there is a clear desire to stay for many people because of strong emotional bonds and place attachment with their region of origin (Lewicka, 2011; Adams, 2016; Altman and Low, 2012). These analyses reveal

how both immobility and mobility could be seen as a privilege of people from higher socio-economic backgrounds. This pertains especially to having the choice and ability to stay or migrate. For such privileged groups, this ability to migrate or stay is not necessarily connected with a need to do so. Other groups cannot always afford to stay (e.g., lack of employment opportunities). Paradoxically, these are precisely those who encounter difficulties moving as well. Socio-economic status determines both the freedom to choose to migrate *and* to stay. Immobility, then, refers to being stuck (or ‘trapped’) in a situation where there is a lack of opportunities to secure one’s livelihood and should thus be interpreted in the social context. Socio-economic groups vary in their respective abilities to stay and in the need to migrate and – due to the different resources at their disposal – may have a distinct ability to migrate or a distinct ability to stay. Apart from this socio-economic position, the life course also determines to some extent both migration aspirations as well as the ability to stay or migrate, as will be discussed below.

4.3. Migration aspirations and the life course

As shown in the previous sections, environmental changes are largely felt through their impacts on social structures and people’s livelihoods, and these vary across the life course. Additionally, these migration aspirations should be framed within ongoing migration trends in Morocco. Over the last century, age-specific migration events have occurred, such as the migration history of groups of young people who went to work in Europe after World War II and return migration after retirement (De Haas and Van Rooij, 2010). In addition to these general migration dynamics, three remarks must be made with respect to the life course approach taken here. The first is that the importance of employment opportunities varies across the life course, suggesting that it is mainly working-age groups that are likely to be faced with a decision to migrate or not. When asking about migration patterns in Morocco, Imane immediately referred to age differences:

‘Yes, people that reach old age return. They are old men and old women, they won’t stay in France, they return to Morocco. But the young people, no, they say, “We won’t stay in Morocco, we are going to France” [laughs].’

In line with previous migration trends (IOM, 2020; King et al., 2004), employment opportunities were especially relevant drivers of migration for young people who just entering the labour market or at the start of their careers. Often, these respondents said they wanted to make a living and ensure a stable working situation before starting a family. Especially in Tinghir, in this life stage, agricultural work, subject to environmental degradation, was often seen as not providing a sufficient income and was thus not appealing (cf. quote Yanis). The investment required was often considered as consuming too much time and too many resources. In addition, people in this age group felt they could not afford to invest, as this might postpone starting a family. In many cases, such investment was necessary – precisely due to increasing drought and the depletion of traditional water reserves – and served as a prerequisite for success. Given the economy in Tinghir, alternate sources of income and opportunities must be found elsewhere; young people aspired to migrate due to the lack income and employment opportunities that would secure their livelihoods to start a family.

The second remark concerns the relativity of ‘life satisfaction’, with some of the more elderly interviewees appearing to be more satisfied with what they have, while younger generations ‘needed more’, using different frames of reference across time and place. Chaima (55-year-old female, Tinghir), for example, mentioned that in the past people just ate and slept, with few other ambitions but were satisfied. Thami (62-year-old man, retired, Tinghir) exemplifies how people now are used to having more food:

‘Before, people were poor, but today, there is no poverty. Now, when you go to the refrigerator there are plenty of things. It’s not like before, where you had meat and you ate it for an entire week, with your entire family’.

When living in a subsistence economy and relying on agricultural production, it is harder to buy smartphones or invest in education and healthcare. In this sense, young people desired ‘more’ than previous generations. Yanis referred to his family, who used to live as nomads but changed their mode of life over time:

‘Because there is not enough food in the mountains, that’s why some nomads disappeared. They left all the sheep and sold it [the land?]. Now there are three nomad families living in Ugudman, before there were many nomads, now just three, because they don’t like this life either, sometimes you find a nomad, without a house without a parcel of land, in the *palmerie*. What life do you have? Just mountains, your children don’t go to school, what is this?’

Due to the lack of employment opportunities, this ‘desire for more’ is easily translated into a ‘desire to move’ when facing a lack of opportunities to realize the former – but only for young people. This section demonstrates the importance of interpreting the need to migrate in relative terms, including the socio-economic living conditions, in a gradually degrading region. While people rarely expressed an urgent need to migrate, there was a relative need – when seen in terms of securing one’s livelihood and compared to others – and a clear desire to do so, as expressed by younger interviewees.

In most cases, people considered migrating to cities, which are seen as places with more and better opportunities for people from rural areas (Bouoiyour et al., 2017) but also with more opportunities in general. This is especially true for young people like Nizar (24-year-old male student, Tangier), who enjoys the opportunities that cities such as Tangier have to offer, such as going out with his friends: ‘but in Kalaa M’gouna [city in Tinghir province of 14,190 inhabitants] you can’t, because there are only mountains, houses and schools, nothing more’. While such factors are mentioned mainly by young people, cities attract people in all age categories (e.g., due to the wider availability of healthcare services). While only those in urgent need of medical care see healthcare benefits as the main reason to temporarily migrate (e.g., in case of cancer treatment, etc.), others merely see it as an additional advantage when weighing up the costs and benefits of migration.

Third, although life course stages of economic and family production frequently overlap in time and thus fall into the same age category, it is important to distinguish between the two when discussing the development of migration aspirations. Although they

often coincide in time, economic stability is often seen as a precondition to starting a family, and it is especially in this pre-family phase that people are more eager to migrate. Discussing marriage and children implies taking a gender-sensitive approach, given the different roles of men and women in this process (De Jong, 2000; Boyd and Grieco, 2003; Gioli and Milan, 2018; Chindarkar, 2012). In the context of our study, the men generally sought employment opportunities, which stimulated their aspiration to migrate to larger urban areas (in Morocco or abroad). The women appeared to wait or look for men who had already successfully entered the labour market whom they could marry and start a family. For these younger women, there were even fewer employment opportunities and migration opportunities (e.g., due to employment offers). This means that they were more likely to be immobile involuntarily – despite their migration aspirations.

Muhammed (60-year-old male, Tinghir), a father of five daughters, emphasized the importance of study for young people ‘because there is nothing, nothing here’. He mentioned that there were no jobs or hospitals, but also suggested that the younger generation did not want to work the land. He thought them very demanding, especially the women. He mentioned amenities such as electricity and high water prices, generally citing higher standards of living and his family’s changing expectations. He also emphasized how hard it was for him to support all his children, especially since they had remained at home longer than expected. In addition, he explained that parents had arranged their children’s marriages in the past, but now they were powerless; and while women can now choose their own partner, finding one is not easy. For Muhammed, it was even more difficult: all his daughters were over 18 and ready to marry but could not find husbands because many men do not have work and thus cannot afford to marry. As a result, many young people do not marry or postpone marriage.

As Muhammed’s family situation demonstrates, lack of employment opportunities and insufficient income hinders the transition to other life stages, paralyzing the prospects of social engagement and married life. Simultaneously, for the same group of young women, there are employment opportunities elsewhere, especially for those living in Tinghir, given the gendered society and division of household tasks (cf. Donato et al., 2006; Gioli and Milan, 2018). This was, for example, emphasized by Safa (24-year-old female accounting student, Tinghir), who gave the following explanation for her desire to migrate: ‘Here, it is difficult to get a job, a good job I mean, it’s like ... here, girls don’t get jobs, it’s a little bit bad’. A heightened desire for more emancipation for women was emphasized by younger respondents. Due to the lack of investment in agricultural work, young women tended to remain unemployed rather than working – or ‘wasting their time’ – in the fields. This contrasts with the older female interviewees, who contributed to the household income by working in agriculture. These findings highlight the need to apply a gender-sensitive vulnerability framework (Chindarkar, 2012) in life course perspectives on environmental migration and the importance of including gender and age differences in the study of migration decisions and abilities (Donato et al., 2006; Boyd and Grieco, 2003).

Overall, these different migration aspirations are linked to people’s life course. More specifically, for families with a lower socio-economic status, young people especially will have more clearly developed migration aspirations and search for opportunities elsewhere, even if they do not perceive any effects of environmental change. For older groups, and especially those outside working age, neither employment opportunities nor starting a family are relevant to any consideration to migrate, making them more dependent on local family networks and, in most cases, resulting in the need and desire to stay, but aspiring for their children to migrate.

4.4. Migration abilities and the life course

The relevance of being in a particular age category (working age/young vs retired/elderly) when discussing the ability to migrate became apparent throughout the interviews, such as with Rehana (46-year-old housewife, Tinghir – interviewed through an interpreter):

Interviewer: ‘Why did Rehana not opt to migrate with that company?’

Interpreter/Rehana: ‘Her daughter left, she didn’t’

Interviewer: ‘Why not?’

Interpreter/Rehana: ‘No, at her age, she can’t work, and in her time there weren’t such recruitment companies, not here!’

Rehana’s son: ‘Before, she did not encounter opportunities to migrate’.

Interpreter/Rehana: ‘If she’d had opportunities, she would have left’.

Rehana’s son: ‘If there were, yes’.

Interpreter/Rehana: ‘She says that they don’t need “aged”/“elderly” people like her. And before, there were no such companies’.

Interviewer: ‘They didn’t come here?’

Interpreter/Rehana: ‘No, they didn’t, but her daughter left last year. They don’t want elderly people, they only want young people’.

Interviewer [speaking to Rehana’s son]: ‘So, now your sister will ...’

Rehana’s son: ‘She has already returned. [...] she will go back after spending three months here. She has already been here one month, with two more months to go before she can return’.

The life course thus affects the drivers of migration and the opportunities available. Younger generations, who are just entering the

labour market, preparing for marriage and a family, rely more heavily on their socio-economic position in society. Due to their life course, they are more able to migrate. One needs to be able to find opportunities to ensure a living elsewhere. Being able to start over and provide an income is not that straightforward for most people. After arrival in a new region, migrants tend to live together in inadequate housing and work under difficult conditions. For example, Faisal (30-year-old male, Aït Ben-Haddou, Province of Ouarzazate) had rented a room in Agadir with three others while employed and returned to his mother's house in Aït Ben-Haddou when unemployed. 'Retired' or older people with a migrant network encounter fewer problems if they migrate as their relatives take care of them. However, for most other older people, the idea of re-entering the labour market and in a new place is perceived as impossible, or not very likely to succeed. For example, while older people living in Tinghir might still work a little in the fields or take care of animals and live relatively cheaply, this is often impossible in larger cities. Consequently, for older people or those who have never migrated, and especially for those without migrant networks, migration aspirations are seen as impossible and immediately associated with younger generations.

Additionally, migration policies in Morocco and Europe have changed across the years, and this has negatively affected the opportunities to migrate and Moroccans' ability to migrate internationally (Berriane et al., 2015). These changing policies have often turned transnational migration aspirations into internal choices (cf. quote Loubna). The issue of age also recurred in the interviewees' responses, as shown by Zineb (32-year-old female, Tinghir):

'Today, it is very difficult but also not so difficult to migrate. It is possible as a tourist, but when searching for contracts, it is quite hard. There are many *young* people who want to visit France, but to find a job ... it's a global crisis, unlike before, even people in France encounter problems because of the crisis and it's even worse in Spain'.

Within this migration policy framework, the distinct ability to migrate is thus also related to life course stages. These are implicated in the ability to migrate abroad, for example, through family reunification procedures or being recruited to work overseas (e.g., doing seasonal work). Walid (31-year-old male teacher, Tangier) considered that the only way he could migrate to Europe would be to find a partner and be willing to marry:

'If I wanted to live in Europe, I would have to respect some rules. You have to marry to go and live in Europe'.

Nizar (24-year-old male, Tangier) also interpreted the opportunity to migrate in terms of marriage proposals:

'I had the chance to live in France, but I refused. [...] I could marry a French girl, but I said no, I told her I wanted to stay here, life in Morocco is very good'.

Older generations are already embedded in local social networks, with greater interdependency on others (e.g., sharing a house, caring for others) and have fewer employment opportunities (as Rehana pointed out). Interestingly, people's migration aspirations are especially pronounced and characterized by specific life course stages, and should be seen in an intergenerational way as they are also limited by people's migration abilities due to the social roles they occupy in society and their life course stage. As demonstrated by Zakaria's interview, the lack of ability to migrate is especially an issue for women:

'*Women cannot escape, they cannot run, they cannot do many things you know.* Women – as we think in religion, no not in religion, but following the mentality of Riffian people – women are only seen as able to do housework. But, actually, women are pilots, they are police, they are in the army, they are soldiers, they are rich. But people still think about these things in a similar way in their 20 s, 30 s, and 40 s, and these things don't work'.

Looking at migration from a household perspective, this association of the idea to migrate with younger generations might also be linked to income diversification (see Stark and Bloom, 1985). This would suggest that young people should migrate, as they are still at the start of their careers and family life and can send remittances to their families back home. As Imane pointed out:

'My family needs me to help them and give them an extra hand, and actually, I could also use an extra hand'.

This means that young people take care of those who perceive as unable to migrate or not aspiring to migrate. Others explicitly mentioned their attachment to their family networks to explain why they needed to stay and were not able to migrate, as was the case of Zineb (32-year-old female, unemployed, otherwise working in the film industry, Tinghir):

'International migration is not for now, because I don't want to be too far from my mother. I want to stay here for her, but that doesn't matter, she can come to my place and...I even have two sisters and a lot of family living in France, in Paris, but I prefer to stay here, if I have a good job here in Morocco, it's better to stay here. And if I want to leave, for example, to do tourism, or something like that, why not? Or a course...'

These findings show that when analysing the ability to migrate and stay, life course impacts both and that they are entwined – which complicates the conceptual usage, especially when making a distinction between voluntary and involuntary migrants and immobile groups. Migration aspirations are entangled with 1) socio-economic position and opportunities (which are also reflected in a rural–urban divide), and 2) life course stages and generations, which also structure the ability to migrate *and* to stay.

5. Conclusions

This study introduced the life course approach to environmental migration research, bringing a new perspective to our understanding of immobility in the context of slow-onset environmental change (Zickgraf, 2018; IOM, 2020). It demonstrated the importance of considering aspirations and abilities to migrate and to stay and moving beyond a distinction between voluntary and involuntary mobile and immobile groups when faced with environmental changes. This emerged as relevant because there was hardly any sense of urgency related to the need to migrate in these slow-onset environments. This further diffuses the distinction between the

need and the desire to move as environmental changes were mainly perceived and formulated in economic terms and life goals. Consequently, this resulted in more migration aspirations related to environmental change for people living in Tinghir than in Tangier. Both migration aspirations and abilities were found to be impacted by the life course.

The first aim of this study was to highlight the added value of a life course approach to the study of environmental migration in slow-onset settings. These slow-onset environmental changes demand a relative approach that encompasses temporal, social, and environmental factors (Adger, 2006). Applying a life course approach to environmental migration research is particularly suited to this end as it focuses on the changing, socially-embedded roles (and sequence of roles) that people have over the course of their life (Mortimer and Shanahan, 2002). As a degrading natural environment impacts agricultural production (cf. IOM, 2020), environmental change is more clearly perceived by, and has a greater impact on, people from families who have invested and worked in these domains and those from families with lower socio-economic status or lower educational levels. Although none of the respondents mentioned an urgent or immediate need to move, many young people expressed a strong desire to move. They were still at the start of their careers and willing to try a new profession, undertake additional education and training, and – particularly in the case of men – needed to ensure they could make a living before starting a family. Thus, for these younger age groups, the desire to move was strongly linked to employment opportunities which, in rural areas such as Tinghir, may often be framed by, and dependent on, environmental change. For older age groups, the perception of being ‘trapped’ is outweighed by an acceptance of their position in the social and family structures and is converted into a desire for their sons and, albeit to lesser extent, their daughters to be able to migrate (cf. Stark and Bloom, 1985). Moving becomes less appealing when someone is settled. Moreover, additional resources would be required to undertake a migration journey and resettle.

The study’s second aim was to reconceptualise immobility in the context of slow-onset environmental change. The three criteria of immobility defined in the Foresight report (2011), namely the need, desire, and ability to move were analysed and assessed to determine their validity for future research. The three criteria provided a starting point for analysing immobility and the life course but were not sufficient in themselves for two reasons. First, the three dimensions interacted and were therefore difficult to distinguish from each other in certain respects. It became apparent that the need and the desire to move/stay were most difficult to separate and could be better captured as migration aspirations in general. Moreover, as also theorised by Carling’s aspirations-ability framework, these migration aspirations were also fully structured and limited by people’s abilities (Carling, 2002). Comparing the accounts of the older and younger age groups, migration aspirations were clearly dependent on life satisfaction, expected (and different) living standards, and the ability to migrate. Furthermore, the current distinctions between the three criteria do not incorporate feedback mechanisms (cf. Carling and Schewel, 2018) and how their interrelationship changes over time. Second, they did not further the analyses of reasons to stay. These results add to the literature as they also demonstrate that being able to choose whether to stay or migrate can be seen as a privilege in slowly degrading environmental contexts of those from higher socio-economic groups or with higher educational levels or having migrant networks. In these groups, the ability to migrate/stay was less connected with the urgent need to migrate/stay.

Future research should delve deeper into the variations found within the same age categories and understand which factors contribute to place attachment (cf. Lewicka, 2011; Altman and Low, 2012). Feedback mechanisms (Carling and Schewel, 2018) and making sense of immobility (Zickgraf, 2018; Schewel, 2019) could also be future topics of research. Finally, based on these findings, policymakers might develop more age-specific adaptation strategies to deal with environmental change, with migration seen as one of a number of adaptation strategies.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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