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# Staying while the sea rises

Inhabitants' climate immobilities in Fairbourne, Wales

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Cover photo was taken in Fairbourne by the author on March 2, 2023.

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## Abstract

Inhabitants of Fairbourne, a coastal village in Wales, have been branded the United Kingdom's first "climate refugees" by media, as governmental actors aim to relocate the village in order to adapt to sea level rise. However, the climate mobility regime, referring to the collective of discourses, regulations, and actors that shape the future of Fairbourne, is highly uncertain as it does not include a relocation plan or compensation for inhabitants. This thesis uses a climate mobilities lens to study how the climate mobility regime of Fairbourne shapes the abilities of inhabitants to move or stay and how inhabitants in turn navigate this regime in order to regain agency over their mobilities. Through interviews with inhabitants and regime actors, observations and a policy documents analysis, this thesis shows that governmental actors have adopted a facilitating role within the climate mobility regime, allowing atypical actors such as media agencies to significantly shape the outcome of the regime. The regime has adopted a hands-off approach, thereby depending on the adaptability of the community. As a result, the majority of inhabitants is unable to move. While limited by the conditions set by the climate mobility regime, Fairbourne's community has navigated the uncertainty by engaging in counter-immobilities: they plan to stay as a way of resisting the government-led relocation.

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# 1. Introduction

## 1.1 Background

While the concept of “climate refugees” has been based on imaginaries of inundated coastal planes with abandoned homes and groups of people displaced in the Global South (Bettini, 2013), the last decade has seen increasing attention for a new “icon” for climate change and adaptation in the United Kingdom. Inhabitants of Fairbourne, a coastal village in North Wales at risk from sea level rise, have been branded the first “climate refugees” of the United Kingdom by media agencies (Crump, 2019; Gerretsen, 2022; Wall, 2019).

Sea level rise due to climate change has been accelerating compared to last century, making coastal communities around the world vulnerable to flooding and erosion (Oppenheimer et al., 2019). For the United Kingdom (UK), the number of homes at risk from coastal flooding in England is expected to increase significantly in the coming decades (Committee on Climate Change, 2018, p. 9-10). According to the UK Environment Agency, choices will have to be made which coastal communities can be protected from the sea and which communities will have to be moved (Environment Agency, 2020, p. 58). In Wales, around 40 coastal areas may need to relocate property due to risk of the sea (Welsh Government, 2020, p. 41). Welsh coastal management plans were updated in 2014 to create a long-term vision for its coastal defence. For Fairbourne, it was considered unsustainable to continue defending the village under rising sea levels (Guthrie, 2011, p. 112). Consequently, a planning horizon was set up to govern this change to a limited future for Fairbourne, aiming for the official shoreline to be moved back, thereby ‘decommissioning’ the village (Committee on Climate Change, 2018; Environment Agency, 2020, p. 56). Decommissioning is a term that local government has used to describe that the whole village will cease to exist, formally at least (Buser, 2020, p. 129, 142). The policy therefore also highlights the need for relocation of the local community (Guthrie, 2011).

Fairbourne would be the first village in the United Kingdom to move all its property due to climate change risks and thus shows how climate change adaptation strategies can result in the need for migration. When communities are relocated in anticipation of sea level rise, this is called ‘managed retreat’ or ‘managed realignment’ (Earlie et al., 2012; Welsh Government, 2020). While a managed realignment policy has been advised for Fairbourne around 2054 (Guthrie, 2011), details of relocation are unspecified. As of yet, there is no coordinated plan for the relocation of the inhabitants, nor any confirmation on possible financial compensation for moving. As a result, some inhabitants have stated in media interviews that they intend to stay in their village, either out of protest or because they are not able to move out (Gerretsen, 2022).

### 1.1.1 Climate change and movement

Academic research and political debates on the relation between climate change and movement have developed via different narratives over the last decades (Piguet, 2013). A brief overview is provided here for context, while a more extensive account of these developments is given later in the thesis. The academic and political debate first focused on the climate change and migration nexus by analysing migration as a direct effect of environmental pressures and changes. It was argued that climate change would result in an international security threat due to mass migration from communities, primarily in the Global South, who would not be able to adapt to changes in their environment (Myers, 1993). This frame has been heavily critiqued in academia for its deterministic direct link between climate change and movement and for the victimisation of “climate refugees”, as it neglects individuals’ agency and neglects the structural political and social conditions that would have influenced movement (Bettini, 2013; Bettini et al., 2017; Black et al., 2011).

An alternative approach gaining influence since the 2010s adopted a broader and more positive focus to mobility under conditions of climate change (for a review of this debate see Wiegel, Boas, & Warner, 2019). Recognising that migration has always been a part of the human world, Black et al. (2011) argued that the choice to migrate is driven by many factors, such as social, political and economic drivers, which should not be seen in isolation from environmental drivers. Influenced by scholarly and governmental debates on vulnerability and resilience (Bettini et al., 2017), the 'migration as adaptation' frame argues that people adapt consciously to a changing climate by engaging in migration practices, thereby viewing migration as an opportunity to cope with environmental changes (Black et al., 2011). However, the approach has been criticised for giving focus primarily to the adaptability at the individual level, thus putting the responsibility for failure to adapt also on the individual, pushing underlying political and social inequalities to the side (Bettini et al., 2017).

Finally, aiming to move the debate on climate change and movement beyond the previous perspectives and their limitations, a climate mobilities approach was introduced to the field (Boas et al., 2019, 2022; Cundill et al., 2021; Parsons, 2019). The climate mobilities approach builds on literature regarding environmental mobilities (Boas et al., 2018; Wiegel et al., 2019) and the mobilities paradigm (Sheller & Urry, 2006) to provide a lens that views human mobilities in the context of climate change as a part of mobilities in everyday life, shaped by existing patterns and histories of mobility. It thereby gives attention to the many forms of climate mobilities, including immobilities and relocation, and explores under which political and material conditions these happen (Boas et al., 2022). The climate mobilities perspective combines attention for the individual and societal experiences of movement and nonmovement with the broader perspective of scrutinising actors, ideas, material and political conditions that have shaped those possibly differentiated experiences.

In order to understand how climate mobilities are shaped and governed, wider aspects of politics and power are analysed through the concept of *climate mobility regimes* (Boas et al., 2022). This collective of discourses, (proposed) regulations, and actors, both governmental and non-governmental, shapes the future for Fairbourne and thereby the movement of its inhabitants. In the climate mobility regime, representations of actors, ideas and imaginaries of the future might compete, leading to an overall effect that influences climate mobilities of the inhabitants.

### 1.1.2 Problem description

In the case of Fairbourne, the climate mobility regime appears to have adopted a seemingly neoliberal hands-off approach assuming self-resilience on part of the community, thereby laying the responsibility for movement at the individual level. The way people choose to move or stay under climate change is related to their ability to move, shaped by the political and material conditions of the climate mobility regime, and to their willingness to move (Wiegel et al., 2019). At a first glance, the majority of Fairbourne's community has not moved away, both due to a limited ability to do so and a lack of willingness to move, possibly as a way of resistance. Disinterest of individuals in moving has been primarily researched in the context of displacement and resettlement, while an emerging but limited body of research has explored why and how people are staying in place, instead of moving, in situations of high migration pressures in the context of climate risk (Adams, 2016; Farbotko, 2022; Farbotko & McMichael, 2019; Naser et al., 2023; Wiegel et al., 2019). Immobility can also be seen as a way of resisting climate mobility regimes. Boas et al. (2022) have in that context called for research to explore "how climate mobility regimes are resisted and reframed from below, with those affected reclaiming their right to mobility justice" (Boas et al., 2022, p. 3375).

Additionally, studies on movement in the context of climate change have focused primarily on cases in the Global South, thereby often framing refugees as a "southern problem" (Piguet et al., 2018). This focus however neglects uneven mobilities and immobilities within communities, also in regions

considered to be more affluent (Wiegel et al., 2019). It is essential to explore how immobilities in the context of climate change have already materialised in a country such as the United Kingdom, to put attention on differentiated mobilities within a community in the Global North. While the political conditions of the United Kingdom should not be generalised to the entire Global North, insights into climate immobilities and resistance will be essential for policy-makers, as more coastal communities in the UK are expected to have to adapt to rising sea levels in the coming decades.

## **1.2 Research objective**

Exploring the embeddedness of differentiated immobilities on the community scale of Fairbourne within the broader power relations and political conditions on the regional and national scale of Wales and the United Kingdom adds to the academic debate on dynamics of climate immobilities as a way of community resistance and reframing of climate mobility regimes. The aim of this thesis research is therefore to explore how the climate mobility regime of Fairbourne, Wales, shapes the immobilities of Fairbourne inhabitants and whether and how the inhabitants challenge and navigate this climate mobility regime in order to exert agency over their decisions and abilities to stay or leave Fairbourne.

## **1.3 Research questions**

The research is guided by the following main research question:

**How does the climate mobility regime of Fairbourne, Wales, shape the immobilities of Fairbourne inhabitants and how do inhabitants challenge and navigate this climate mobility regime in order to exert agency over their decisions and abilities to stay or leave Fairbourne?**

The main research question can be answered by researching the following sub research questions:

1. What is the climate mobility regime of Fairbourne, Wales, and how does it shape the immobilities of its inhabitants?
  - 1.1 What is the Fairbourne climate mobility regime: what policies does it exist of and which actors are involved in steering the climate mobility regime of Fairbourne?
  - 1.2 What are the power relations between regime actors and how are these influenced by material and financial factors?
  - 1.3 How are immobilities supported and discussed in policies and by policy-makers?
2. How do inhabitants of Fairbourne experience the effect of the climate mobility regime on their willingness and potential to move?
3. How do inhabitants of Fairbourne navigate and shape the regime in order to seek agency over their own immobilities?
  - 3.1 How do inhabitants of Fairbourne interact with, shape and possibly resist the climate mobility regime?
  - 3.2 Does this interaction and possible resistance enhance the level of inhabitants' agency to stay or leave?

## **1.4 Reading guide**

This thesis continues with the methodology in Chapter 2, which lists the qualitative methods used to conduct the case study research. Chapter 3 discusses the theoretical framework for the thesis, extending the introduction to climate mobilities research that was given in this introduction. The results follow in the next three chapters. Chapter 4 provides an analysis of the actors, policies and ideas that

have shaped the climate mobility regime. Chapter 5 explores the aspects of inhabitants' immobilities. Chapter 6 discusses the ways in which inhabitants have navigated and shaped the climate mobility regime in order to influence their own mobilities. Next, the discussion in Chapter 7 develops the results further into a list of key findings, reflects on what the results have added to the overall academic debate on climate immobilities, and gives recommendations for policy-makers. Finally, Chapter 8 answers the sub and main research questions in the conclusion.

## 2. Methodology

This chapter discusses the qualitative methods used to conduct the research. First, a more extensive case study description is given, including the geographical and social aspects of Fairbourne, to provide context for the type of case Fairbourne represents. Second, the different qualitative data collection and data analysis methods are described. Finally, the fieldwork is described and a reflection on research positionality is given.

### 2.1 Case study

#### 2.1.1 Fairbourne village

Fairbourne is a coastal village in North Wales, in the county of Gwynedd (Figure 1), with a population of approximately 700 permanent inhabitants (Savills & Cyngor Gwynedd, 2023). It is located on a low-lying salt marsh and is protected from coastal flooding by a sea defence wall and draining pipes. The village was built in the late 1800s when the land was bought by Arthur McDougall, famous from McDougall's flour, who aimed to turn the land into a seaside resort (Hyde, 2013). Fairbourne is a coastal village that is highly dependent on tourism and its population can increase to 3,000 people in summer.

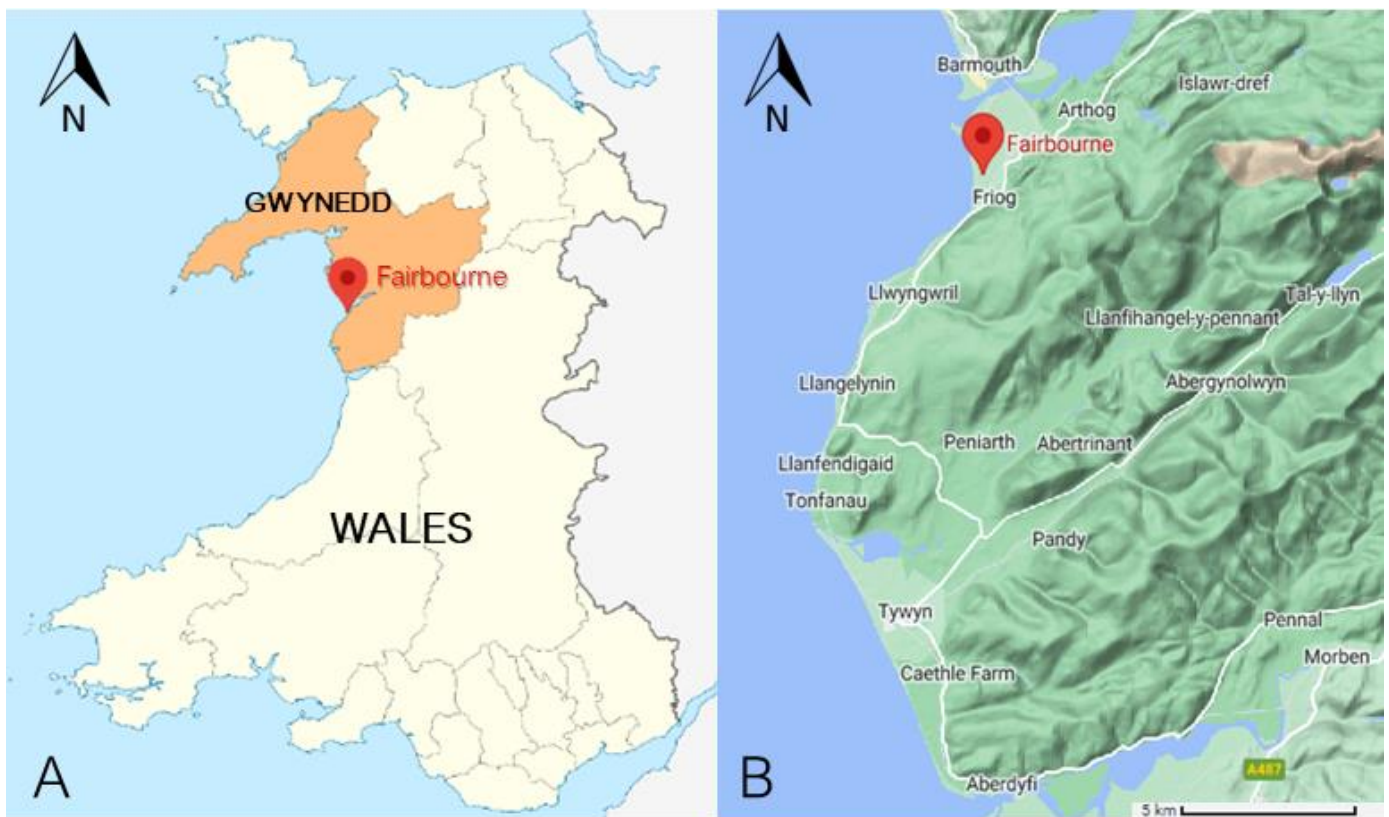


Figure 1. Map A shows Wales, the county Gwynedd and Fairbourne's position within Gwynedd (adjusted from NordNordWest, 2010). Map B shows the local region and Fairbourne's position in relation to other villages, such as Barmouth, Arthog, Friog, Llwyngwril and Tywyn. The map also shows the land elevation, highlighting the overall hilly landscape with Fairbourne being relatively flat (adjusted from Google Maps, n.d.).

Fairbourne is known for its sand beach that appears during low tide and the historical miniature railway going from the centre of the village to end of the shingle bank at the Mawddach Estuary. During the summer months, a ferry takes people from the railway station at the end of the shingle bank across the estuary to Barmouth (Fairbourne Railway Preservation Society, n.d.). The mountains surrounding Fairbourne are part of Snowdonia National Park (Eryri in Welsh), attracting nearly 4 million visitors each year (Snowdonia National Park Authority, 2023).



The village has several shops and facilities, including two minimarkets, a fish and chip shop, a delicatessen shop, a golf course with accompanying pub, and a pub near the beach that also serves lunch and dinner. Fairbourne also has two public toilet facilities and has a train station along the Cambrian Coastal Line, making it accessible for visitors by public transport.



Figure 2. Picture of a map of Arthog, Friog, Fairbourne and surrounding areas, placed in Fairbourne by the Arthog Community Council. The smaller photographs show the beach, the miniature railway and the mountains surrounding the estuary (taken on March 1, 2023).

### 2.1.2 Case study characteristics

The case of Fairbourne was introduced to me via the Dutch documentary 'De klimaatverkenner' (3Doc, 2022), recommended to me by my supervisor. The documentary explored the adaptability of the Netherlands to sea level rise and showed Fairbourne as an example of a place where sea level rise is already impacting inhabitants. Specifically, the documentary framed Fairbourne as a case of adaptation to sea level rise whereby the responsibility to adapt and to cope with the changes is assigned to the inhabitants themselves. This raised questions regarding who is responsible for adapting to sea level rise and how the policy has affected its inhabitants in this particular case.

The plans for Fairbourne are based on a 'managed realignment' policy. 'Managed realignment' is a way for governing bodies to indicate that they aim to change the border of coastal protection in order to adapting to sea level rise. Usually, this involves moving the coastal defence structures backwards, allowing the land to be inundated (Esteves, 2014). 'Managed realignment' as a policy is mostly applied in the United Kingdom, but it has also been done in some other Northern European countries, such as Germany and the Netherlands (Esteves, 2014; Ketelaars et al., n.d.; Rupp-Armstrong & Nicholls, 2007). For Fairbourne specifically, the official shoreline would move backwards behind the village, thereby excluding the village from coastal protection. This has necessitated the process of 'decommissioning' (removing all current housing and infrastructure) and relocation according to local governmental bodies

(Guthrie, 2011), which is discussed further in Chapter 4. Fairbourne thus represents a case of ‘managed realignment’ which provides a distinct context regarding climate mobilities with the following characteristics:

First, as the protected shoreline is moved backwards as a way to adapt to sea level rise, existing housing and infrastructure would need to be moved away, thereby making Fairbourne as case of government-led ‘migration as adaptation’. The ‘migration as adaptation’ concept is explained more extensively in Chapter 3, but briefly it means that movement away from the risk area is seen as a legitimate and sometimes even a positive way of adjusting to a changing climate. This case thus allows for exploring how the concept of ‘migration as adaptation’ is applied in a climate mobility regime.

Second, the homes of current inhabitants in Fairbourne would be excluded from coastal protection under the ‘managed realignment’ policy, therefore necessitating a plan for relocation of properties and people. However, while this need is acknowledged in policy, there seem to be no plans for relocation or financial compensation for inhabitants. This makes Fairbourne as case in which government seemingly depends on the self-reliance of the inhabitants, allowing this thesis to explore how these political conditions are shaped by the climate mobility regime of Fairbourne and how this affects the inhabitants.

Finally, and perhaps most importantly, Fairbourne represents a case of planned relocation on a relatively short timeline, based on climate change effects that have not affected the area yet. The policy for Fairbourne is designed over a timeline, indicating a period for ‘managed realignment’ for the period around 2055 (Guthrie, 2011). Currently, there is no need to realign the coastal defences yet, meaning that inhabitants of Fairbourne do not have to move or be relocated yet. However, since this policy timeline has been adopted since 2014, the prospect of managed realignment and consequent relocation has influenced daily life in Fairbourne. Specifically, this case can shed light on the effect that this policy approach for the future might have had on inhabitants voluntary and involuntary mobilities and immobilities in the present day.

Fairbourne as a case study thus allows for analysing the climate mobilities and immobilities of inhabitants of a village subject to planned managed realignment and relocation in the near future in the context of the United Kingdom.

## **2.2 Data collection and analyses**

To analyse the climate mobility regime and the effect on inhabitants’ mobilities, I collected qualitative data via multiple qualitative methods. To conduct the semi-structured interviews and observations in-person, I went on a fieldwork trip of 5 weeks to Wales from the 28<sup>th</sup> of February until the 6<sup>th</sup> of April, 2023. During the fieldwork, I stayed with a host family in Tywyn, a town south of Fairbourne (see section 2.3.1).

The methods are described in different sections. First, semi-structured interviews were conducted with climate mobility regime actors and, second, with community members. Third, observations were done in Fairbourne. Fourth, policy documents were selected for the document analysis. Each section first covers the data collection methods, after which the data analysis process is described. The final section summarizes how the data from these different methods was brought together.

### **2.2.1 Semi-structured interviews with climate mobility regime actors**

#### **Data collection**

Seven semi-structured interviews with climate mobility regime actors were done between February 23<sup>rd</sup> and April 19<sup>th</sup>, 2023 (Table 1). Regime actors were selected via the Fairbourne Moving Forward website (Fairbourne Moving Forward, 2015) and academic literature on Fairbourne (Buser, 2020). Regime actors #1-3 and #6-7 were approached via email and phone for an interview. The interviews with regime actors #4-6 were arranged after encountering the organisations during fieldwork. Wales Property

Services and Morris Marshall & Poole (MMP) estate agents both have offices in the main street in Tywyn. For the interview with Wales Property Services, I called and set up an interview at the office. I also called MMP estate agents, but getting no response, I walked into the office without an appointment and interviewed two women behind the desk. Finally, when visiting Pwllheli, a town north from Fairbourne, I encountered the Barclays office and asked for an interview with someone from the mortgage department. They could not meet me at that moment but gave me the phone number of their mortgage service, resulting in a phone interview.

Some regime actors declined to participate in an interview. For example, a representative from an estate agency that I observed most on 'for sale' signs in Fairbourne, Walter Lloyd Jones, did not want to participate in an interview as they had had this request very often. I received a similar response from a representative of Natural Resources Wales.

*Table 1. Overview of the climate mobility regime actor interviews that were conducted.*

Tag	Organisation	Type of organisation	Name interviewee
<b>Regime #1</b>	Royal Haskoning DHV	Consultancy	Greg Guthrie
<b>Regime #2</b>	Network Rail	Railway manager	Alex Hinshelwood
<b>Regime #3</b>	Gwynedd Council (Cyngor Gwynedd)	Local government	-
<b>Regime #4</b>	Wales Property Services	Estate agent	-
<b>Regime #5</b>	Morris Marshall & Poole (MMP)	Estate agent	-
<b>Regime #6</b>	Barclays Mortgages	Bank	-
<b>Regime #7</b>	National Flood Forum	Charity	-

Regime actors #1-#3 and #7 signed a consent form (see Appendix B). Regime actors #1 and #2 gave additional written consent for the use of their name. Regime actors #3 and #7 did not give consent for the use of their name and are therefore kept anonymous. Regime actors #4-6 participated willingly in the interviews but did not sign a consent form. They are therefore kept anonymous.

The interviews followed a prepared interview guide. Two types of interview guides were prepared: one guide for regime actors involved in Fairbourne Moving Forward (regime interviews #1-3) and the other for regime actors involved with mortgages, finances and insurances (regime interviews #4-7). Both interview guides can be found in Appendix A1 and A2 respectively. I primarily followed the interview guides, usually complemented with improvised questions.

Interviewees were asked permission for recording the interview verbally during the interview, after which they signed the consent form. During the recorded interviews, I took notes on paper. As interviews #3-5 were not recorded, I took extensive notes and put these into a summary as soon as possible afterwards. Recorded interviews were transcribed into a non-verbatim summary by listening to the recordings and reading my notes. An automatic transcription was made via Microsoft Teams for interviews #1 and #2 as they were conducted online. Those transcriptions were then summarised. The interview transcriptions exclude my questions unless they were necessary to include in order to understand the interviewees' statements.

## **Data analysis**

The regime interview summaries were imported into ATLAS.ti and coded on which policy documents were referenced by the interviewees. The interview summaries were read multiple times and notes were taken about the content and the relation between certain quotes from the interview and other interviews or policy documents. The content of the interviews was analysed on content on how mobilities were represented, how organisations worked together and how the regime actors influenced and interacted



with the policies (for the policy documents analysis, see section 2.2.4). As the regime actors each represented a different perspective of the climate mobility regime, there was no need to code the transcripts on patterns. Rather, the content of the interviews was more important than underlying phrases or meanings. The regime interviews were thus analysed as if they were expert interviews, as the regime actors could give essential and detailed information about the policy making process.

## **2.2.2 Semi-structured interviews with community members**

### **Data collection**

Twenty-two interviews were conducted with twenty-six community members in Fairbourne (Table 2). The number of interviewees is higher than the number of interviews, as some interviews were done with couples that lived together. Interviewees are referred to as 'community members', as not all interviewees lived within the official borders of Fairbourne. Nineteen of the interviews (with 22 people) were conducted with inhabitants of Fairbourne, while three interviews (with 4 people) were done with people that lived in the neighbouring villages Arthog, Friog and Llwyngwrl. As these interviewees live close to Fairbourne and interact with the climate mobility regime and inhabitants of Fairbourne in their daily life, they are considered part of the community.

Four interviews were set up via the social network of my host family in Tywyn, which then provided more interviews via the snowball sampling method. I also went to the pubs and shops in Fairbourne and asked people to participate, although I preferred the snowball sampling as this made it easier to connect with new interviewees. My expectations for the number of interviews were low, as Fairbourne has had much media attention and inhabitants have been asked to do interviews by media organisations over the years. Therefore, the interview goal was set at 20 interviews. In practice, via the connections of my research informants, the kindness of the community and the fact that I was no journalist but a researcher, I was able to conduct 22 interviews. All interviews were done in-person. Most interviews (13) were done at people's homes. Other interviews were done at the Penrhyn Bar and Grill pub in Fairbourne (4), the pub at the golf course in Fairbourne (3), the leisure centre in Tywyn (1) or a shop in Fairbourne (1). Interviews took between 20 minutes (usually for the more casual interviews) and 1 hour and 40 minutes (generally with interviewees that were involved in the Arthog Community Council).

After conducting the first ten interviews with interviewees above 60 years old, I actively searched for interviewees that were younger in order to get a diverse sample of the Fairbourne community. I asked interviewees specifically if they knew younger people in the village for me to interview and interacted with personnel in the pubs in Fairbourne, which led to interviews with people aged below 60. To protect the identities of the interviewees, no specific age is given, but interviewees are categorised into three different age groups: younger person (18 up to and including 40 years old), middle-aged person (41 up to and including 60 years old) and older person (above 60 years old). The last age group is based on a definition of the United Nations for people above 60 years old (United Nations Refugee Agency, 2020).

Pseudonyms were given to the interviewees to protect their privacy, while retaining the personality in the interviews. The pseudonyms were chosen from a data set provided by the Office for National Statistics of the 100 most popular baby names in England and Wales between 1904 and 1994 (Corps, 2014). Based on the age and gender of the interviewee, a name from the corresponding time period was chosen. Age and duration of residence have also been assigned in categories to protect the privacy of interviewees (Table 2).

Interviewees signed a printed consent form at the start of the interview and had the opportunity to receive a copy (see Appendix B). Community interviewees #14 and #17 declined to sign the consent form. Interviewee #14 wanted to remain fully anonymous and was not comfortable with signing the form and interviewee #17 did not want to sign the form as he did not think it was necessary. As interviewee #14

and #17 thereby did not give consent for recording, these interviews were not recorded. All other community interviews were recorded by the audio recorder on my phone.

*Table 2. Overview of community interviews. The order of interviews is chronological. The names are pseudonyms. Age is categorised in one of three groups: young person (18-40 years old), middle-aged person (40-60 years old) and older person (60+ years old). Gender given is either female (F) or male (M). Duration or residence is given in years per time category of ten years: 1-10 years, 11-20 years, 21-30 years, 31-40 years, 41-50 years, 51-60 years and 60+ years. A hyphen '-' signals that no duration of residence was obtained. Community member #17 did not want to share age or duration of residence, but said she had lived in Fairbourne "all her life", which can reasonably be assumed to be between 20 and 40 years based on several details she shared about her life in the interviews.*

Tag	Name(s)	Age group	Gender	Residence	Duration of residence
#1	Alison	older person	F	Fairbourne	1-10 years
#2	Maurice	older person	M	Fairbourne	41-50 years
#3	Samuel	older person	M	Arthog	-
#4	Jean	older person	F	Fairbourne	11-20 years
#5	Constance	older person	F	Fairbourne	11-20 years
#6	Gillian	older person	F	Fairbourne	11-20 years
#7	Harold	older person	M	Fairbourne	60+ years
#8	Graham	older person	M	Friog	60+ years
#9	Peter & Caroline	older persons	M & F	Fairbourne	1-10 years
#10	Amanda	older person	F	Fairbourne	1-10 years
#11	Fred & Bridget	older persons	M & F	Fairbourne	11-20 years
#12	Stanley	older person	M	Fairbourne	31-40 years
#13	Lisa	younger person	F	Fairbourne	11-20 years
#14	Ben	younger person	M	Fairbourne	1-10 years
#15	Mark	younger person	M	Fairbourne	11-20 years
#16	Tony	middle-aged person	M	Fairbourne	41-50 years
#17	Karen	younger person	F	Fairbourne	"all my life"
#18	Stephanie	younger person	F	Fairbourne	1-10 years
#19	Susan & Scott	younger person & middle-aged person	F & M	Llwyngwrl	11-20 years
#20	Michael	middle-aged person	M	Fairbourne	21-30 years
#21	William & Joanna	middle-aged persons	M & F	Fairbourne	31-40 years & 21-30 years
#22	Gavin	middle-aged person	M	Fairbourne	11-20 years

An interview guide was created according to the theoretical framework of climate mobilities, focusing on people's experience of living in Fairbourne, their motility and their aspirations to move (Appendix A3). The interview questions were generally based on the interview guide for the community. As the interview guide was designed for inhabitants of Fairbourne, I slightly adjusted some questions during interviews with community members that lived outside of Fairbourne.

The interviews with community members were transcribed using my notes and the recordings. Based on the notes, a summary was made first. Then, with help of the audio recordings, gaps were filled in and relevant quotes were transcribed verbatim. In practice, most transcriptions have included the conversation from the recordings extensively and literally. However, the interviews were not transcribed verbatim as they were not going to be analysed on how people said things exactly, but on the content and themes of what they said. Summarising the interviews also saved time and energy.

There are two limitations to the data collection methods for the community interviews. First, although the sample size suited the time available for fieldwork, the sample size is small. Twenty-two people, of whom nineteen lived in Fairbourne at the moment of interviewing, cannot be expected to represent the entire

community of Fairbourne and all their different views. There could thus be perspectives of Fairbourne inhabitants that are not represented in this thesis. Second, the snowball sampling method has led to a pre-selection of interviewees by inhabitants themselves. There is a strong likelihood that the individuals and households share similar views and qualities. Consequently, the sample obtained may only represent a small subset of the local population. I have aimed to reduce the impact of these limitations on the sampling by including a diverse sample of inhabitants. Next to relying on the snowballing method, I have approached people on my own in different areas of the village, such as the two different pubs which were said to attract different types of people, and the church, while actively reaching out to people of different age groups and physical abilities. Nonetheless, it is important to consider that the views of interviewees in this thesis report might not represent the diverse opinions and experiences of all Fairbourne inhabitants.

### **Data analysis**

Once the interviews were transcribed, the transcriptions were uploaded into ATLAS.ti. This programme allowed me to perform a thematic analysis by coding the interview transcripts on both implicit and explicit themes and patterns. I used the function 'text search' to analyse whether community members used similar words or phrases to describe concepts. I coded all 22 interviews via inductive coding: reading the transcripts and creating my own codes to describe the content of the text. At the end of the inductive coding process, I had created almost 300 different codes, which still required a selection process to reduce the number of codes. I then analysed and reorganised my codes by putting codes into groups, merging similar codes and deleting irrelevant codes that were only applied one or twice and did not relate to the research questions, reducing the number of codes to 174. During the coding process, I also created 'memos' in which I wrote down notes and ideas regarding the data. From the codes and memos I created a 'network': a visual diagram in which the codes are linked to each other (Appendix C). The network allowed me to select only the most relevant codes and organise them into logical groups, thereby reducing the total number of relevant codes to 118. The network then formed the basis for the writing the results chapters.

A limitation of the thematic analysis is that it relies on interpretation of the data by the researcher. To prevent researcher bias, I have analysed the interviews multiple times and have aimed to support all interpretations with multiple quotes from interviews. Nonetheless, the thematic analysis is based on my personal interpretation and experience of the fieldwork.

### **2.2.3 Observations and informal conversations**

#### **Data collection**

To complement the interview data, observations on the material and visual aspects connected to mobilities were done. Photographs were taken of the sea defences, for sale signs, the railway line, and signs in the village. No people were recognisably photographed. Observations on the social aspects of the inhabitants and their mobilities were also done by having informal conversations with inhabitants and were documented by taking notes by hand or recording my verbal notes with my phone. These casual conversations took place at the golf club pub and at the church in Fairbourne after the service. No formal consent was asked for the casual conversations. However, people were aware that I was an outsider due to my Dutch accent and the fact that they had never seen me before in their small village. I would also introduce myself at the start of the conversation as a student from the Netherlands, doing research on Fairbourne for my thesis. This usually immediately steered the conversation towards a short discussion on "the flood business". The conversations were usually quite short, as most people were hesitant or reluctant to share much about it. An example of this occurred when I was in the pub at the golf course. When I initiated a conversation with a woman at the bar, she immediately asked if I was a reporter. Even when I had ensured that I was a student, she remained hesitant to share much with me.

## Data analysis

Observation notes and photos were used as complementary data to support the village context and the stories of the community members. Informal conversation notes were listened to and summarised. Some of the photos are used in this report to illustrate the points in the text.

### 2.2.4 Document analysis

#### Data collection

In order to analyse the policies that underpin the climate mobility regime, a selection of relevant documents was made. For a policy document to be relevant, both climate mobility regime actors and community members had to have mentioned the document in an interview. The interview transcripts were thus analysed and coded on which policies were referred to, leading to the following list of relevant documents in Table 3:

*Table 3. Overview of policy documents used for the analysis of the climate mobility regime.*

Policy document title	Reference
West of Wales Shoreline Management Plan 2	Earlie, Guthrie, & Clipsham (2012)
Fairbourne: Moving Forward Frequently Asked Questions	Marshall (2016)
Fairbourne Preliminary Coastal Adaptation Masterplan	Fairbourne Moving Forward (2018)
Fairbourne: A Framework for the Future	Fairbourne Moving Forward Partnership (2019)
Fairbourne Moving Forward Newsletter	Fairbourne Moving Forward (2022)
Welsh Government Future Generations Act	Welsh Government (2021)
Protection of Fairbourne village from flooding	Hall (2021)
Fairbourne – an adaptive engineering approach to flood protection	Hall (2022)

## Data analysis

The goal of the document analysis was to obtain information regarding the organisation of the climate mobility regime, including which policies influenced each other, which actors were involved in which policies, and which ideas were put forward. However, as the primary data on the climate mobility regime was obtained via the regime actor interviews (section 2.2.1), the document analysis solely aimed to provide more context to the data obtained from the regime actor interviews. The documents were thus not analysed via coding, but rather were scanned for information that gave more context to ideas and statements that were made by the regime actors in the interviews. The document analysis was therefore conducted after the regime interviews were analysed, allowing for making connections between the content of the regime actor interviews and the policy documents.

The above listed policy documents were uploaded into Mendeley, a reference software which allows placing comments and highlighting in documents. The documents were read multiple times and relevant parts were highlighted and commented on. Paragraphs or sentences were deemed relevant when they referred to and connected with statements, ideas and phrases used by regime actors in interviews (see section 2.2.1).

### 2.2.5 Merging the data

These four data collection and analysis methods together informed the result chapters of this thesis. The data from the regime actor interviews together with the context obtained from the policy documents has primarily informed Chapter 4 on the climate mobility regime of Fairbourne. Data from the interviews with inhabitants together with observations were primarily used to write about aspects of the inhabitant's climate mobilities in Chapter 5 and 6. However, some overlap occurred as well, for example as the

research reports from Dr. Hall were part of the policy document analysis, but were used as context for Chapter 6.3 on how inhabitants have interacted with science.

The different data collection methods additionally acted as a way of triangulating the data. The use of four different qualitative methods for data collection, focusing on collecting data about both the inhabitants of Fairbourne and the actors, policies and ideas of the climate mobility regime, has helped to enhance the validity of the findings by allowing for cross referencing between the data sources.

## **2.3 Conducting fieldwork**

### **2.3.1 Fieldwork details**

During the fieldwork, I stayed with a host family in Tywyn, a town south of Fairbourne (see Figure 1 in section 2.1.1 for the location of Tywyn on the map). I had approached my host family via the email address of the local church for Fairbourne. As Tywyn and Fairbourne are connected to the same church organisation, this connected me to people in Tywyn. While I had aimed to stay in Fairbourne for the fieldwork to be more engaged with the local community, it was difficult to arrange this from the Netherlands without knowing anyone in Fairbourne. Staying in Tywyn has given me sufficient opportunities to engage with the local community in Fairbourne as the church in Tywyn and Fairbourne are connected and the local people of Tywyn and Fairbourne generally interact with each other. My host family drove me to Fairbourne on my first day in Wales and showed me around in the village. From the second day, I could use my host family's second car, allowing me to drive the 20 minutes to Fairbourne almost daily, to do observations, set up interviews and conduct the interviews. I also attended a church service in Fairbourne with my host family.

The research design adopted some ethnography elements. I interacted with the local culture daily as I was living in the area during the fieldwork. I interacted with people in Fairbourne at public places and in the two pubs and I joined events my host family attended. My host family also acted as my research informants, as they had knowledge of the local area and could connect me with some local people from Fairbourne. They connected me to my first interviewee. I also organised three other interviews directly via the church connections of my host family. A woman from Arthog was my other research informant, whom I had talked with via Facebook, after I had posted a public request for a place to stay in the Fairbourne area. She was able to connect me to a community member in Arthog for an interview. By being able to stay with local people in the area and to connect with them, I had the opportunity to observe everyday interactions and culture and to make casual conversation about my research topic.

### **2.3.2 Researcher positionality**

While I had not heard about Fairbourne before starting my thesis research, it quickly became apparent that Fairbourne has been getting much attention from media agencies, but also from researchers. It has been quite challenging to focus on my research purpose in this 'hot spot' for climate adaptation. During my proposal phase (in November and December 2022), I mainly referred to the only published case study on Fairbourne from Buser (2020), which was a good introduction to Fairbourne as a case, although it was written from a coastal management perspective. I contacted the author to ask how he had experienced his fieldwork in Fairbourne, and he warned me that it is a sensitive topic amongst inhabitants which might lead to difficulties in my data collection. During my fieldwork, new media articles were published, for example in the local newspaper Cambrian News that my host family subscribed to. These articles often highlighted new facts, angles and developments, thereby distracting me from my research focus and scope. Also, during my fieldwork in Wales, a new academic article on Fairbourne was published by Arnall & Hilson (2023) from a social science perspective, highlighting the perspectives of inhabitants. The constant publications of new information from different angles has made it necessary for me to reflect often on my research focus and activities.

Sometimes I felt quite insecure and embarrassed to do my research about this same case study. Due to the attention for Fairbourne and previous studies that have been done there, I sometimes felt as if I was one of the many asking about the same topic, thereby possibly disturbing and upsetting local people. I have therefore taken care to try and not put any extra mental strain on the lives of the community via my research. Using the snowballing method to find interviewees provided me with interviewees that had given their consent for me to contact them and I did not have to approach people as a stranger. In the instances that I did approach people by myself, I tried to be as respectful as possible, explaining why I was there and what the interview would be for, and why I would like to interview them specifically. If the answer was no, I did not push further and politely accepted this. However, most people I talked to were very kind and talkative. Once I started the interviews, interviewees were generally interested to tell me their story. Three interviewees that were also members of the Arthog Community Council had given out interviews before, but most other interviewees had not done an interview like this before. When I asked why they had been willing to participate in the interviews, interviewees generally said it was because they were asked by someone they know and because I was a student instead of journalist.

Finally, I want to acknowledge that certain privileges have allowed me to undertake this research. My Dutch passport has allowed me to travel easily to Wales. Being a young white female student, it might have been easier for me to engage in conversations with people as I would generally not be perceived as threatening or much different. As most of the people I have met in Wales were white, I could blend in quite easily. My Dutch nationality also gave people an easy way to connect with me about flooding, as many community members mentioned the fact that the Netherlands is actively protecting their coast from the sea. This association of the Dutch with coastal protection might have given me more authority to talk about sea level rise.

## 2.4 Closing

This chapter has outlined the characteristic of the case study of Fairbourne and the four different qualitative data collection methods that were used. Additionally, the fieldwork itself was discussed and reflections on fieldwork were shared. Next to the methods, the theoretical framework of climate mobilities has also shaped the research focus and design. The next chapter discusses these theoretical underpinnings.

### 3. Theoretical framework: climate mobilities

This theoretical chapter describes which concepts are used to conduct the thesis research and explains how the different concepts relate and interact. This case study on Fairbourne aims to explore three questions. First, how the climate mobility regime of Fairbourne, shapes the immobilities of Fairbourne inhabitants. Second, how inhabitants experience the effect of the climate mobility regime on their willingness and potential to move. Third, whether and how the inhabitants navigate this climate mobility regime in order to exert agency over their decisions and abilities to stay in Fairbourne. Different concepts are introduced and linked in this chapter to show how these aspects of the case study of Fairbourne can be analysed.

This chapter starts by discussing the origin and development of the climate mobilities framework and the characteristics of the framework. Next, the concept of a climate mobility regime is described and Fairbourne's case is linked to the 'migration as adaptation' perspective. The third section describes the characteristics of im/mobilities (mobilities and/or immobilities) of community members and the debate on voluntary and involuntary im/mobilities distinctions. Fourth, the concept of navigation is explained as a way of analysing the interaction between the inhabitants and the climate mobility regime. The closing section summarises the aspects used to analyse the case of Fairbourne.

#### 3.1 Development of the climate mobilities debate

Since the early 1990s, dominant narratives about climate change and human migration in politics, academia and policy-making have been accompanied by imaginaries of mass migration of "climate refugees" from the Global South coming to the Global North. "Climate refugees" were thereby framed as a security threat to international relations (Myers, 1993). The alarmist tone and focus on securitisation of this framework have been heavily criticised in academia. Critical scholars have argued that this framework is based on an overly simplistic link between environmental change and movement, victimising affected people as having no agency (Bettini, 2013; Bettini et al., 2017; Bettini & Gioli, 2016; Wiegel et al., 2019).

An alternative more positive approach originated with the publication of the influential Foresight report in 2011, commissioned by the United Kingdom Government Office for Science (Bettini et al., 2017; Foresight, 2011). The report argued that there are different aspects that can drive people to migrate, such as economic, social and political drivers (Black et al., 2011). Additionally, it found that local and regional migration are an important adaptation strategy to environmental pressures, thereby also providing opportunities for some (Black et al., 2011; Foresight, 2011; Wiegel et al., 2019). This 'migration as adaptation' perspective has promoted migration to be a conscious choice of individuals who proactively use their agency to adapt to vulnerabilities and risks, thus refuting the assumption of the agency-less "climate refugees". It also coined the term "trapped populations", indicating that some affected groups could become forced to stay due to environmental changes (Black et al., 2011; Foresight, 2011). However, by viewing affected populations as having agency, this analytical approach risks placing the responsibility for adaptation fully on the individual level. In case individuals would fail to adapt, the responsibility is then also assigned to the individual level, instead of addressing issues of underlying systemic vulnerabilities, such as broader political or economic factors (Bettini et al., 2017; Wiegel et al., 2019).

Aside this development of climate change and migration discourses, the upcoming mobilities paradigm in the early 2000s (Hannam et al., 2006; Sheller, 2018; Urry, 2007) signalled a more nuanced interdisciplinary approach bridging the social sciences, humanities, and studies on design and transport. Focussing on diverse types of movement across scales, it included the movement of objects and ideas

next to bodily movements. Most importantly, the mobilities turn highlighted the significance of studying political conditions and power relations that result in im/mobilities and limited freedom in movement for some (Cresswell, 2010; Feng et al., 2021; Kaufmann et al., 2004; Wiegel et al., 2019).

In response to the previous climate migration narratives of 'climate refugees' and 'migration as adaptation', scholars such as Parsons, Baldwin, Boas, Wiegel, Farbotko, Warner and colleagues (Baldwin et al., 2019; Boas et al., 2019, 2022; Cundill et al., 2021; Parsons, 2019; Wiegel et al., 2019) have adopted a more nuanced view on climate migration by developing an alternative analytical lens to study mobilities in the context of climate change. Applying the mobilities paradigm (Hannam et al., 2006; Sheller, 2018; Sheller & Urry, 2006) to climate change and migration situations, the climate mobilities lens emphasises how different forms of movement on global and local scales depend on context and the embeddedness in the wider picture of unequal power relations and historical and existing mobility patterns (Wiegel et al., 2019). It thereby relays the previously assumed linear relation between climate change impacts resulting in international migration (Boas et al., 2022; Parsons, 2019).

The climate mobilities concept builds upon the environmental mobilities framework, but is focused on climate change (including climate change discourses and policies) as the main context of movement. Climate change provides the context for mobilities, but the concept of climate change itself takes on a background role (Baldwin et al., 2019; Boas et al., 2022). The climate mobilities framework does not merely or per se focus on the physical effects of climate change, such as flooding, but also explores how the concept of climate change is producing a real-life effect on mobilities. Climate mobilities are thus influenced by policies, ideas and actions created *in the name* of climate change.

The framework of climate mobilities is used to analyse the case of Fairbourne as it allows for a nuanced and detailed perspective on the affected population as active agents with their own practices and experiences of mobilities and immobilities, while acting under certain broader political and material conditions (Wiegel et al., 2019). These political conditions are determined by policies and decisions made by authorities, while material conditions are affected by available (transportation) infrastructure and systems, in this case e.g. coastal defence systems. In order to understand these political and material conditions, this thesis studies how climate mobilities in Fairbourne are framed and governed in relation to emerging climate risks by different actors.

### **3.2 Climate mobility regimes**

The steering of movements in the context of climate change is performed by the climate mobility regime. A climate mobility regime represents the conglomeration of social, economic and political relationships constituted by various different actors that shapes and governs the nexus of climate change and mobilities (Boas et al., 2022; Paprocki, 2018). The climate mobility regime is not one single entity that exerts agency, but rather represents the total effect of decisions made by different types of actors, even if they have different perspectives and might be contradicting each other (Paprocki, 2018; Schapendonk, 2018). Regime actors might consist out of different national and international state actors, as well as research, science, and media institutions (Paprocki, 2018) that exercise agency within their respective domains. The overall outcome of the climate mobility regime is shaped by the ideas, actions and framings of all regime actors.

The effect of the climate mobility regime should not be seen as neutral or objective. Power relations shape the outcome of and interaction within the climate mobility regime. Those regime actors with most power would be able to push their agendas more and have more leeway to exert their agency than regime actors with less spheres of power. However, this does not only apply to regime actors, but also to ideas, policies, and infrastructures (Sheller, 2014). Those that exert most power, have most influence via the climate mobility regime to shape the climate mobilities of the affected population. The climate



mobility regime is thus continuously shaped by a struggle for power and representation between different regime actors (Boas et al., 2022; Sheller, 2018).

The climate mobility regime is based on predictions and assumptions about the future. Regime actors aim to govern the present to adapt to an uncertain future under climate change (Vervoort & Gupta, 2018). The combination of both knowledge and uncertainty regarding the future is what gives the climate mobility regime its authority (Paprocki, 2018, p. 957-958). The actors participating in the climate mobility regime legitimate their authority through their use of science and data about ongoing process of climate change (Vervoort & Gupta, 2018, p. 9), but paradoxically also through the uncertainty of climate change implications. The climate mobility regime is grounded in the assumption that climate change will lead to inevitable effects on a particular population, however uncertain it might be when and how these effects might actually materialise and how people may adapt to these effects (Farbotko et al., 2023). In other words, as there is no certainty about the future effects of climate change, there is a need for governance of this uncertainty.

In addition, aspects of immobility and mobility in the climate mobility regime are strongly connected to immobile infrastructures, such as transportation infrastructure (Wiegel et al., 2019). Similarly, Blondin (2022) calls for consideration of the material elements of infrastructures, and the conditions that shape them, that support or block mobility and immobility. The material aspects within the climate mobility regime, in this case transportation infrastructures, but also the sea defence systems, should thus also be considered as an influence on the im/mobilities of the affected population.

### **3.2.1 Migration as adaptation**

The above-mentioned assumption that climate change will lead to inevitable impacts gives the climate mobility regime reason to implement adaptation measures (Paprocki, 2018). As climate change effects are assumed to be unavoidable, it is assumed necessary to adapt in order to prevent risks. In the name of adapting to climate change, the climate mobility regime implements migration measures, such as the adoption of an evacuation plan or permanent relocation plan. The climate mobility regime of Fairbourne has adopted a 'managed realignment' policy (Earlie et al., 2012; Guthrie, 2011), meaning that governmental bodies have chosen to move the line of coastal defence backwards as a way of adapting to sea level rise (see Chapter 4.1). As the coastal defence line would be moved back behind the village, climate mobility regime actors assume that this necessitates relocating the inhabitants and infrastructures to avoid risks (Guthrie, 2011). Thus, in order to adapt to climate change effects, relocation is argued to be necessary.

This government-led relocation is a form of 'migration as adaptation', as movement is seen as the solution to avoid severe climate change effects, to be executed by individuals from the community themselves without governmental support. This type of relocation is, in this case, however, put forward by governmental bodies and not on the initiative of the affected population. It fits within the earlier mentioned 'migration as adaptation' frame (section 3.1), which argues that migration can be seen as an opportunity for populations to adapt to a changing climate, expecting them to be self-resilient.

The concept of adaptation, and thus also 'migration as adaptation', as such has its roots in resilience literature (Bettini, 2014). A populations resilience refers to its capacity to "withstand shocks, recover, adapt, or in some cases learn, evolve, or move to a new systemic equilibrium while maintaining basic functions" (Corry, 2014, p. 257). However, this resilience frame can place the risk and responsibility entirely on an individual or a community, emphasizing an individual's failure to adapt. Underlying political issues and questions around climate justice and inequalities are thereby pushed to the side of the debate (Bettini et al., 2017; Wiegel et al., 2019). The approach of government in the United Kingdom has been shown to adopt a generally neo-liberal resilience approach (Boas & Rothe, 2016). In the case of

Fairbourne, the current lack of compensation for relocation seems to suggest a similar resilience-based approach from government. According to Bettini et al. (2017, p. 350), from a resilience perspective, governments are not expected to take on the responsibility to protect their population. It is therefore important for this thesis to analyse whether inequalities and responsibilities are addressed under the 'migration as adaptation' approach in Fairbourne. By asking questions on who is mobile and who is not, and why, dynamics of power and inequality surrounding immobilities under climate change can be identified (Sheller, 2018a).

### 3.3 Community im/mobilities

The climate mobility regime can affect and shape the community and its mobilities and immobilities. Before discussing the ways in which these mobilities can be shaped, it is important to make a note on what is meant when referring to the community. A community as such refers to all people living in the area that is affected by the climate mobility regime. In this case, this is primarily Fairbourne, but strong social ties and similar experiences under the climate mobility regime can also be found within the neighbouring villages of Arthog and Friog, which will therefore not be excluded. This differs from inhabitants, which refers to the inhabitants of the village of Fairbourne specifically. When referring to the mobilities of the community, the community is not per se seen as one entity. Rather, as argued by Larsen et al. (2006), mobilities as relational, thereby relating a community with differences on the household (e.g. Zickgraf, 2022) and individual level.

The climate mobilities and/or immobilities of communities can be examined via their capabilities and their aspirations to move. First, the capabilities of a person to move is referred to as motility: the potential to move. Motility can be split into three elements (Kaufmann et al., 2004): First, access describes the options a person has for moving and the conditions under which this move has to happen. Second, competence relates to the physical ability, skills and organizational capacity of an individual. Third, appropriation is how a person interprets and acts upon their perceived access and skills and is thus strongly connected to the two previous elements (Sheller, 2018a; Wiegel et al., 2019). By outlining the elements of motility, one can understand how a person is impacted by systemic inequalities that result from broader political, social, economic and cultural interactions and power relations across scales (Wiegel et al., 2019).

Appropriation, the third element of motility, refers to how an active agent, in this case (members of) the community living in Fairbourne, can exert agency over their own situation by considering and selecting specific options and it is connected to their strategies, motives, values and habits (Kaufmann et al., 2004). Agency can be defined as a "social engagement to develop strategies for the future that are informed by the past and the present" (Emirbayer & Mische, 1998 as phrased in Feng et al., 2021, p. 2747). Briefly, agency is thus how people consider their options for immobilities and mobilities, resulting in their ability to employ strategies in order to influence their ability to move or stay. The concept of agency will be further discussed in the next section.

The second aspect shaping im/mobilities is people's aspiration: the willingness to move or stay. People are often disinterested into becoming mobile, especially in situations of relocation (Wiegel et al., 2021). In such situations, unwilling populations might exercise their desire for immobility because of their sense of belonging or a different perception of risk (Boas et al., 2022).

Within communities that are influenced by the same climate mobility regime, mobilities can differ. Differentiated mobilities and immobilities within communities are based on the different capabilities and aspirations of moving or to staying. Differentiated motility and aspirations together can lead to uneven mobility: the unequal levels of motility among communities to realise their aspirations for im/mobility (Wiegel et al., 2019, p. 6). Resources and power relations across scales all influence and confirm these

differentiated mobilities. For example, households under the same climate mobility regime might have similar aspirations to move away from climate risk, but only those with sufficient resources and the right personal circumstances would be able to move. Acknowledging this differentiation when designing policies in the context of climate mobilities is important for policy-makers to avoid ‘trapping’ the most vulnerable part of the population in place (see Adams, 2016). The difference between voluntary and involuntary im/mobilities is discussed in the next section.

### **3.3.1 Voluntary/involuntary im/mobilities**

Usually, immobilities are split into two categories: voluntary immobilities and involuntary, or forced, immobilities. First, voluntary immobilities refers to people who choose to stay in place, either in accordance with the dominant mobility regime, or as resistance against the regime, with the aim of trying to influence their own im/mobilities. Within this one category, there is thus a diversity in aspirations regarding why and how people choose to stay in place. Second, involuntary or forced immobilities, applies to populations that would rather not stay, but cannot move due to certain circumstances. This is sometimes called a ‘trapped population’, a term that first appeared in the UK Foresight Report (Foresight, 2011). While financial resources have been identified as a significant barrier to migration in literature on immobility, Adams (2016) argued that ‘trapped populations’ should be seen on a spectrum, whereby some populations might be involuntary immobile due to lack of financial resources, but others are limited in movement due to social barriers, thereby referring to concepts such as place attachment. Additionally, Zickgraf (2019) argues that, while economic factors are impacting immobility, social factors and, most importantly, political factors are playing an essential part in influencing immobility situations.

Zickgraf (2019) argues that immobilities can also fall in between the two categories of voluntary or involuntary. Similarly, but with a broader focus on mobilities and immobilities, Sheller (2022) and Zickgraf (2019) have both challenged the dichotomy between mobility and immobility, as they argue that people can be immobile and mobile at the same time. For voluntary and involuntary immobilities, a related argument can be made. For example, the climate mobility regime of Fairbourne aims to relocate people in the long-term when the town would cease to exist. Some inhabitants might be willing to move in accordance with the climate mobility regime. Can this then be categorised as voluntary mobility, as people are willing to move, or is it not entirely voluntary as this choice is pushed by the climate mobility regime? Additionally, some people might be willing to move in accordance with the regime, but might not be able to because of financial limitations, making them involuntarily immobile, even though their aspirations were in accordance with policy. Another group of people might not want to go at all, but if they are forced to leave, they would become involuntarily mobile. However, people might stay in place out of protest, thereby engaging their own agency and shifting their status to voluntarily immobile. Immobilities and mobilities can thus follow each other, and can change, just as the voluntary or involuntary aspect. This thesis aims to explore this grey area between voluntary and involuntary immobilities in order to assess whether inhabitants in Fairbourne can exert agency over their im/mobilities. The next section describes how inhabitants can exert such agency by ‘navigating’ the climate mobility regime.

### **3.4 Navigating the climate mobility regime**

To describe how people have responded and interacted with climate mobility regimes, mobilities scholars have used the concept of navigation (see Boas et al., 2022; Schapendonk, 2018a). Social navigation has been defined by Vigh (2009) as “the act of moving in an environment that is wavering and unsettled” (p. 420), referring to the ways people move within a moving environment. Here, a ‘moving environment’ does not refer to literal movement from one place to another, but rather it refers to the changeability and flexibility of a social setting. Similarly, ‘the way people move’ does not necessarily refer to physical moving between places (although this is not excluded), but points to the strategies that

people employ in their interaction with their social environment. The concept of social navigation highlights the fact that people move in a social context of actors, individuals and institutions that is in itself always moving (Vigh, 2009, p. 420). The concept of navigation thus is a fitting lens to analyse the *interaction* between a changing social setting, in this case the climate mobility regime, and the way people deal with this setting.

Navigation links the present to the future. People navigate the regime by attempting to find paths and ways into “an uncertain and changeable future” (Vigh, 2009, p. 425). To find these ways, people are engaged in imagining the future, hoping for certain outcomes, planning for certain future scenarios, and trying to understand the influences and actors within the climate mobility regime that affect their future (Guyer, 2007, p. 409 as cited in Vigh, 2009). They are thereby engaging in struggles for attaining certain goals, for example the goal of saving Fairbourne in this case. To navigate thus means to act in the present day, while finding ways that lead to a possible future (Vigh, 2009). Navigation links people’s actions and interactions in the here and now with imaginaries of the future.

Communities under climate mobility regimes are thus not passive subjects. Instead, people have *agency* to ‘move’ and act within their changing social setting. In situations of social change, wherein the broader social context of a society is moving and changing, people living within this social context are required to ‘adapt’ to these changes (Scott, 1998 as cited in Vigh, 2009). However, Vigh (2009) argues that people are never completely free to move as they want, as this is always in relation to the influences of the social forces that shape the social environment. Thereby, an agent is seen within a social setting that is shaped by power relations. In other words, individuals, households, or collective communities enact agency over their situation, but always within a socially constituted context, and thus always somewhat limited and shaped by the power relations within the social setting. As people ‘move’ and act within the social setting, the social setting is constantly changing and ‘moving’, which in turn affects the possible future pathways that can be acted upon. This interactivity of “motion within motion” (Vigh, 2009, p. 420) is analysed in this thesis, where the climate mobility regime represents the changing social setting and whereby the agents that ‘move’ in this setting refers to the affected community under the climate mobility regime.

When applying the concept of navigation to the climate mobility regime and inhabitants of Fairbourne, navigation refers to the responses of Fairbourne’s community to the effects of the climate mobility regime and how they employ certain strategies to influence the effect of the climate mobility regime on their mobilities. The effect of the climate mobility regime is shaped by a struggle over power and representation. It is therefore constantly changing and ‘moving’. Communities can navigate the climate mobility regime by influencing, shaping and resisting the overall effect of the regime on their mobilities. By navigating the regime, inhabitants of Fairbourne can thus exert agency over their own climate mobilities.

In case of relocation, affected populations are often reluctant or unwilling to move (Farbotko & McMichael, 2019). Climate mobility regimes can then be challenged, by populations who find ways to ‘navigate’ the regime to exert influence on their immobilities and mobilities (Boas et al., 2022; Schapendonk, 2018; Sheller, 2018). In cases where climate mobility regimes actively create situations of (involuntary) mobilities, affected groups can protest and resist this climate mobility regime through counter-mobilities (Farbotko, 2022; Wiegel et al., 2021). For example, affected populations might state firmly that they will never leave their place. Voluntary immobility then becomes a political and cultural choice (Farbotko, 2022), employed as a strategy to resist the climate mobility regime and as a way of exerting agency over people’s preferred im/mobilities.

### 3.5 Closing

In order to examine how inhabitants of Fairbourne navigate the climate mobility regime in order to exert agency over their im/mobilities and how they employ acts of resistance or acceptance to respond to the regime, several theoretical concepts were introduced in this chapter. As pointed out in literature, social, economic, political and material aspects, such as transportation infrastructure, produced by the climate mobility regime can influence and shape inhabitants' motility, aspirations and experiences of mobilities and immobilities. The community can in turn shape and influence the climate mobility regime by exerting agency. This interactivity between the climate mobility regime and the inhabitants can be analysed through the concept of navigation, which also includes the ways in which inhabitants are able to resist the dominant climate mobility regime ideas. Voluntary immobility is one way in which relocation plans can be resisted.

In order to explore the interactivity between the climate mobility regime of Fairbourne and the inhabitants' navigation of the regime, both the climate mobility regime and the im/mobilities of inhabitants are analysed. The next chapter analyses the climate mobility regime of Fairbourne and how it shapes the im/mobilities of the affected population.

## 4. The climate mobility regime of Fairbourne

This chapter gives an overview of the climate mobility regime, based on interviews with climate regime actors and policy documents. As described in Chapter 3, a climate mobility regime typically exists out of different actors, policies, and ideas that manage and frame the connection between climate change and mobilities in a specific way. Actors expected in such a climate mobility regime are local and national governmental actors, scientists, media institutions, journalists and filmmakers. This chapter describes those actors relevant for the Fairbourne climate mobility regime and analyses how they interact with each other. Also policies, reports and newsletters are used to describe the climate mobility regime. Finally, Fairbourne's infrastructures and material conditions included as part of the climate mobility regime.

This chapter starts with one specific policy: the West of Wales Shoreline Management Plan. The first section outlines which actors were involved in the creation and implementation of that policy. Other policies, reports and actors that have come into play since the implementation of the Shoreline Management Plan are described and analysed in the following three sections. The fifth section reflects on the responsibilities within the climate mobility regime and finally, the chapter is concluded in the sixth section.

### 4.1 The Shoreline Management Plan

At the base of the climate mobility regime of Fairbourne is the West of Wales Shoreline Management Plan (Earlie et al., 2012). Four Shoreline Management Plans have been developed by steering groups of local county bodies and Welsh Government for the Welsh coast line, supported by consultancy Royal Haskoning on the technical background of the sea level rise and coastal protection.

The Shoreline Management Plans use four different coastal defence approaches: hold the line (HTL), maintaining the current standard of defence; advance the line (ATL), strengthening the protection by building new defences towards the sea side of the original defences; managed realignment (MR), allowing the shoreline to move backwards or forwards; and no active intervention (NAI), which means there will be no more investments done in coastal protection (Earlie et al., 2012).

The first Shoreline Management Plans (SMP1) have been developed in the 1990s, adopting a planning horizon of 50 years forward. As such, SMP1 provided a rather limited timeline, not allowing insight and decision-making into long-term coastal protection mechanisms. Therefore, in 2008, the Shoreline Management Plans were updated to include a longer-term perspective, resulting in the draft of the second Shoreline Management Plans (SMP2) in 2010. SMP2 has been approved by Gwynedd Council in 2013 and by Welsh Government in 2014 (Fairbourne Moving Forward Partnership, 2019). In the words of Greg Guthrie from Royal Haskoning, author of this policy, the SMP2 shifted the emphasis from 'can we defend?' to 'should we be defending?', aiming to create a sustainable basis for the next 100 years:

*"We were really trying to ask the hard questions and using the SMPs to actually highlight these issues in the future and explain that we're OK at the moment, but we don't want to be going down any dead ends."*

(Greg Guthrie, personal communication, February 23, 2023)

He explains that between the first and second round of the SMP, knowledge on coastal management and climate change projections has been advanced, which means SMP2 accounts for a more severe sea level rise, considered over a longer period of time, than SMP1. In SMP1, only about 6 inches (about 15 cm) sea level rise was expected over a 50 year period. In contrast, SMP2 took 1 meter sea level rise over the next 100 years (Greg Guthrie, personal communication, February 23, 2023). SMP2

expectations are based on the UK Climate Projection (UKCP) RCP 8.5 sea level rise scenario from the Intergovernmental Panel on Climate Change, which assumes a continued emission increase over time (Greg Guthrie, personal communication, February 23, 2023).

For Fairbourne, SMP2 estimations indicate that the sea defences will not be secure from a threshold of 0.5 meters sea level rise:

*“Taking this 0.5m threshold level, it is considered that without major investment management of flood risk would not be achievable. Having made this step change in investment, there would be an expectation that further investment would be provided in future years. This would, in effect, be making a commitment to increasing cost of defence and increasing the vulnerability of the community into the future. This is not considered sustainable.”* (Guthrie, 2011, p. 112)

Greg Guthrie adds that it is not a question of *if* sea level rise will happen, it comes down to *when* (Greg Guthrie, personal communication, February 23, 2023). This inevitable rise in sea level would thus lead to an unsustainable investment in the sea defences around Fairbourne. The coastal management approaches for Fairbourne have therefore shifted from a singular "hold the line" strategy in SMP1 to a timeline-based framework in SMP2. The revised approach in SMP2 maps out three distinct phases: "hold the line" until 2025, "managed realignment" between 2025 and 2055, involving the relocation of individuals while maintaining coastal defences, and "no active intervention" between 2055 and 2105 (Guthrie, 2011, p. 112).

The precise timing of reaching the 0.5m threshold remains uncertain. Acknowledging this uncertainty, the SMP2 recognizes that the threshold could be reached earlier or later than initially anticipated. The goal of the SMP2 is not to find the exact timeline, but rather to inspire a forward-thinking approach, urging governments and citizens to prepare for the future:

*“There are a lot of people who say: let’s do another study, let’s not worry people. But we actually need to challenge perspectives of people, not least and in particular politicians, to get a vision of the future.”*

(Greg Guthrie, personal communication, February 23, 2023)

The SMP2 recognises the need for relocation of property owners and businesses under its policy timeline for Fairbourne (Guthrie, 2011, p. 116). The SMP2 highlights the absence of dedicated funding schemes for the relocation of large communities and therefore underscores the importance of addressing this matter at the national level.

The West of Wales Shoreline Management Plan 2 is the initial policy driving relocation efforts in Fairbourne, based on the assumed inevitable risk of sea level rise. Its primary objective is to mitigate flood risk for both individuals and infrastructure, necessitating the need for relocation. However, as the SMP2 solely focuses on coastal management, it does not outline specific plans for the implementation of relocating the community. Separate steps were taken to manage the implementation of relocation for Fairbourne, which will be discussed in the next section.

## 4.2 Fairbourne Moving Forward

The Fairbourne Moving Forward (FMF) project has taken steps to implement the SMP2 timeline into ideas and actions for Fairbourne. This section first discusses the origin of Fairbourne Moving Forward, the actors involved and publications it has produced. Then, the recently conducted Health Impact Assessment and its implications are discussed. Finally, the Fairbourne Moving Forward project is analysed on how it presents the idea of relocation.

#### 4.2.1 Origin and actors

To implement the timeline of SMP2 for Fairbourne, Gwynedd Council set up a multi-agency project called Fairbourne Moving Forward (FMF). The goal of the Fairbourne Moving Forward project is to maintain a viable community and a secure place to live, while anticipating a long-term change due to sea level rise (Fairbourne Moving Forward, n.d.). At the lead of the project is local county body Gwynedd Council (Cyngor Gwynedd in its official Welsh name) and its consultancy branch Ymgynghoriaeth Gwynedd Consultancy (YGC). They are working closely with the Welsh Government. Other involved organisations are: Natural Resources Wales (NRW), a government sponsored body that is in charge of managing and maintaining all natural resources in Wales, including sea defences; Network Rail, a public body that manages railway infrastructures, including the railway line that crosses through Fairbourne; and Royal Haskoning DHV, the consultancy firm that was involved in writing SMP2 (Fairbourne Moving Forward, 2018).

The Fairbourne Moving Forward project has organised several meetings and public consultations with inhabitants of Fairbourne to explain and discuss the SMP2 timeline and its implications. To give an overview of the ongoing process, the Fairbourne Moving Forward project has published two documents. First, the Fairbourne Preliminary Coastal Adaptation Masterplan has adopted the SMP2 timeline into a planning horizon of 40 years. Starting in 2014, the timeline ends in 2054 with the aim “to decommission the village”. Decommissioning would mean that “there is no longer the need to defend against the risk of flooding and coastal change” (Fairbourne Moving Forward, 2018, p. 8). However, the Masterplan recognises that this planning horizon should remain dynamic, as the future development of new information might create alternative opportunities. The plan is thus seen as an on-going process, subject to future changes. This planning horizon was summarised in the second document called Fairbourne: A Framework for the Future in 2019. This summary has been written in a more accessible manner and was sent to all inhabitants.

The Fairbourne Moving Forward project is steered by the FMF Project Board which meets every three months. On the project board are also local inhabitants that represent the Arthog Community Council (ACC), which is described further in Chapter 6.5. There have been changes recently in which actors from Gwynedd Council are involved in Fairbourne Moving Forward. Last year, Llion Pritchard took on the role of Fairbourne Project Manager for YGC. Previously, Lisa Marshall (now Lisa Goodier) had been involved as project manager and had been involved in publishing the FMF documents, but she has since moved on to another job. Also, Huw Williams, former head of YGC, who had been involved with Fairbourne Moving Forward since the start, has retired last year, making Steffan Jones the new head of YGC.

#### 4.2.2 Health Impact Assessment

The Fairbourne Moving Forward project has recently reached out to inhabitants in a new way by employing a consultancy agency to conduct a Health Impact Assessment (HIA) in Fairbourne. The Health Impact Assessment has been conducted among inhabitants in November 2022 by consultancy company Savills. It has aimed to get insight into how the climate change risk might have impacted inhabitants' health and wellbeing. It also asked people for ideas for the future of Fairbourne. The HIA was organised as a three-day open house in the local village hall, complemented by questionnaires distributed to each household. According to Gwynedd Council, over 100 people participated, about 20% of the population. The core objective of the HIA was two-fold: to investigate the health and wellbeing impacts of living with climate change in Fairbourne today, and to explore community led suggestions and solutions to aid adaptation, build resilience and improve health. Officers at Gwynedd Council believe that by approaching the situation in Fairbourne from a health and wellbeing standpoint, the HIA may



uncover new possibilities for securing funding (representative of Gwynedd Council, personal communication, March 3, 2023).

This perspective on health and wellbeing stems from the Welsh Future Generations and Well-being Act, enacted in 2015. The national legislation strives to enhance the long-term social, economic, environmental, and cultural well-being of Wales by requiring public entities to consider these aspects in their activities (Welsh Government, 2021). According to Gwynedd Council officials, concerns regarding the potential conflict between the situation in Fairbourne and the provisions of the Welsh Future Generations and Well-being Act served as a compelling argument for conducting the HIA.

The final HIA report has not been made public yet (as of June 2023), but the executive summary has been published in May 2023 (Savills & Cyngor Gwynedd, 2023). Actions suggested by the local community are, for example, the implementation of a beach ramp, to improve access onto the beach over the shingle bank, and the improvement in transparency between Gwynedd Council and the community. The HIA summary concludes that these ideas should be taken up further and could provide the basis for a solution-oriented collaboration between Gwynedd Council and the community (Savills & Cyngor Gwynedd, 2023).

#### **4.2.3 Relocation**

Fairbourne Moving Forward has aimed to govern the implications of the SMP2 timeline for Fairbourne's inhabitants, thereby shaping aspects of mobilities. References to the idea of relocation can be found in both published reports of Fairbourne Moving Forward and in the newsletter that announced the Health Impact Assessment.

In the Masterplan, relocation is addressed as something that needs to be planned, without listing any specific steps. It has noted that inhabitants are unlikely to be relocated to immediate neighbouring areas of the village due to restrictions on construction within the Snowdonia National Park, which borders on Fairbourne from the mountains behind it (Fairbourne Moving Forward, 2018, p. 21). In Fairbourne: A Framework for the Future, the need for a "Resettlement Plan: the relocation of residents" is listed, which would aim "to aid any movement of residents out of the village" (Fairbourne Moving Forward Partnership, 2019, p. 21). However, funding to develop such a plan was not available at the time of publication in 2019. The report also recognises the differentiated risk for people over the coming years in relation to movement: "The need for relocation might increase inequality within the community - some will have the financial resources and therefore the freedom to move, whilst others will be more financially disadvantaged and vulnerable" (Fairbourne Moving Forward Partnership, 2019, p. 23).

An indirect reference to mobilities was made in the newsletter that announced the Health Impact Assessment (HIA). Huw Williams, former head of YGC, introduces the HIA and acknowledges that the announcement of "decommissioning" Fairbourne by "2054" has had a negative impact on the community. As knowledge on climate change has increased since 2018, he argues it is time for the Fairbourne Moving Forward Project Board to review the data that informs future planning decisions. He therefore concludes the paragraph with: "There are no current plans to decommission the village" (Fairbourne Moving Forward, 2022). This sentence suggests a shift in the approach of FMF towards a different or less definite timeline for managed realignment and thus relocation. The practical significance of this sentence remains ambiguous, as no further steps or plans have been published.

The Fairbourne Moving Forward project has been managing the future of Fairbourne since 2014. It has converted the SMP2 'managed realignment' policy into a preliminary list of ideas and steps necessary. Fairbourne Moving Forward has reinforced the SMP2 timeline by talking about a "decommissioned" village by 2054, while at the same time recognizing that this date might be subject to changes. Although

relocation is acknowledged as a necessary step, a concrete plan for its management has yet to be established. The recent newsletter and the Health Impact Assessment process appear to be steering towards more flexibility on the date of relocation. The next sections explore how other aspects of the climate mobility regime have influenced the management of Fairbourne's future.

### 4.3 Media and mortgages

The media has had a significant influence on the climate mobility regime in Fairbourne and its effect on inhabitants. The first media programme about Fairbourne was made in 2014 following a storm. National media programme BBC Week In Week Out reported that Fairbourne would be defended until 2025 (Thomas, 2014). Despite the SMP2 having indicated a timeline for "managed realignment" between 2025 and 2055, the BBC programme had chosen to portray the most extreme scenario. While the Arthog Community Council had been informed about the implications of SMP2 for Fairbourne in 2013 by Gwynedd Council (Fairbourne Moving Forward Partnership, 2019, p. 14), the majority of Fairbourne's inhabitants were initially informed about the uncertain future of their village through the BBC programme (see Chapter 6.2).

Since 2014, media attention for Fairbourne has been continuous. Local and national newspapers, but also international journalists and documentary makers have visited and published news items about Fairbourne regularly. Media agencies also have been inspired by each other's stories. For example, TRT World has filmed a documentary about Fairbourne's future in March 2023. The producer-assistant explained to me that they had gotten the idea for an item about Fairbourne from reading about it in other newspapers (personal communication, March 2, 2023). Media programmes can thus inspire other media programmes, which can lead to the perpetuation of the same ideas and framings.

The BBC programme specifically is considered to have had a negative influence on the situation in Fairbourne, according to the Fairbourne Moving Forward project. In the Frequently Asked Questions document from 2016, listing questions asked by inhabitants to representatives from Gwynedd Council, the BBC programme is named specifically:

***“93. Do you accept responsibility for impacts on the community via approval and adoption of the SMP2?***

*The Welsh Government and Gwynedd Council accept responsibility for the adoption of the SMP2. We do not accept responsibility for the impact on the community as we believe the responsibility for this lies with the BBC. Gwynedd alone has 35 coastal communities subject to the SMP2 and no other community has been affected to the same degree as Fairbourne, from where the Week in, Week out programme was broadcast. The outlook for some of these communities is far worse in terms of level of protection than Fairbourne.” (Marshall, 2016, p. 40-41)*

Gwynedd Council has been approached for comments by local, national and international news outlets over recent years. According to a representative of Gwynedd Council, every effort is made to provide either background information, written statements or interviews within the given deadline and every care is taken with media responses to prevent information from being misconstrued and also to avoid causing panic and negativity around Fairbourne's future (representative of Gwynedd Council, personal communication, March 3, 2023).

Media agencies have adopted their own framing of the situation, primarily emphasizing the fixed timeline of "decommissioning" by "2054". This emphasis has reinforced the timeline while often neglecting the nuanced aspect that the dates are based on current sea level rise estimates and subject to future

adjustments. The media has also called the inhabitants of Fairbourne “Britain’s first climate refugees” (Wall, 2019), a label that is generally not accepted by inhabitants (see Chapter 6).

The media attention for Fairbourne has had an immediate effect on mortgages for the area. An employee from Wales Property Services, a local estate agent, explained that Fairbourne’s postal code, LL38, has been considered non-mortgageable. Mortgage brokers that normally perform an environmental search for prospective buyers will find a high flood risk for Fairbourne (Wales Property Services, personal communication, March 8, 2023). According to an employee from Barclays Mortgages, a mortgage application for Fairbourne would fail because of the sea level rise and flood risk. Investing in a house in Fairbourne would be deemed insecure and unsustainable by the bank, leading them to refrain from offering a mortgage for such properties (Barclay Mortgages, personal communication, March 14, 2023). Wales Property Services has chosen to stop selling houses in Fairbourne, as it is complicated to find a buyer that is willing to live with the flood risk and able to afford the home without a mortgage. Additionally, the employee from Wales Property Services argued how the postal code affects the mortgages unfairly, as the area behind the railway with the same LL38 postal code will probably not flood.

The media has played a significant role in communication between the climate mobility regime and Fairbourne’s community by using its own frames to depict the situation of Fairbourne. The recent flexibility in the future plans for Fairbourne due to the HIA newsletter have been picked up by some media stations such as ITV News. However, the overall effect of the media messaging over the last ten years is not expected to be neutralised by recent nuanced publications. The media has reinforced a definite timeline for Fairbourne by focussing mostly on the plans of decommissioning by 2054, thereby leaving out the subjectivity to change. The effect that this has had on the local community and their mobilities is described in Chapter 5. The next section analyse how the material conditions and infrastructure in Fairbourne shape the mobilities of inhabitants.

## **4.4 Infrastructure**

As material and infrastructural conditions also shape the climate mobility regime, the main infrastructures in and around Fairbourne are discussed in this section: Fairbourne’s coastal defences and the Cambrian Coastal railway line.

### **4.4.1 Fairbourne’s coastal defences**

The climate mobility regime of Fairbourne is based on the ability to protect Fairbourne from the sea in the long-term. Currently, Fairbourne is protected from flooding by a shingle bank on the sea side, an embankment along the estuary, and a system of drainage pipes and sluices to transport the groundwater.

The report Fairbourne: A Framework for the Future explains why it would be unsustainable to protect Fairbourne in the long-term. It is argued that Fairbourne is “not just a case of protecting a low lying coastal community from rising sea levels and higher tides” (Fairbourne Moving Forward Partnership, 2019, p. 9). Several other factors come into play. First, Fairbourne’s coastal defence is a natural shingle bank, which is unlike man-made defences in other coastal communities and can be moved and eroded by waves and currents (Figure 3). Also, Fairbourne is located on relatively lower lying land than other communities. Third, next to rising sea levels, Fairbourne is also at risk from flooding from the Mawddach estuary (Figure 4) and two rivers that flow through or near the village. Fourth, rivers and streams from Fairbourne will be more limited to stream into the estuary with higher sea levels, resulting in a higher flooding risk from those rivers and from the groundwater. Fifth, as the groundwater table in Fairbourne is already high, it is likely to become an increasing risk for flooding over the years (Fairbourne Moving Forward Partnership, 2019).





Figure 3. The shingle bank that defends Fairbourne consists out of shingles (rounded pebbles) that have eroded from nearby cliffs and have collected onto the beach due to the waves. On the left of the shingle bank is the beach, which is submerged during high tide. Houses in the village Fairbourne can be seen on the right of the shingle bank. On top of the shingle bank are “dragon’s teeth”, remaining as war defences from the Second World War (taken on March 2, 2023).

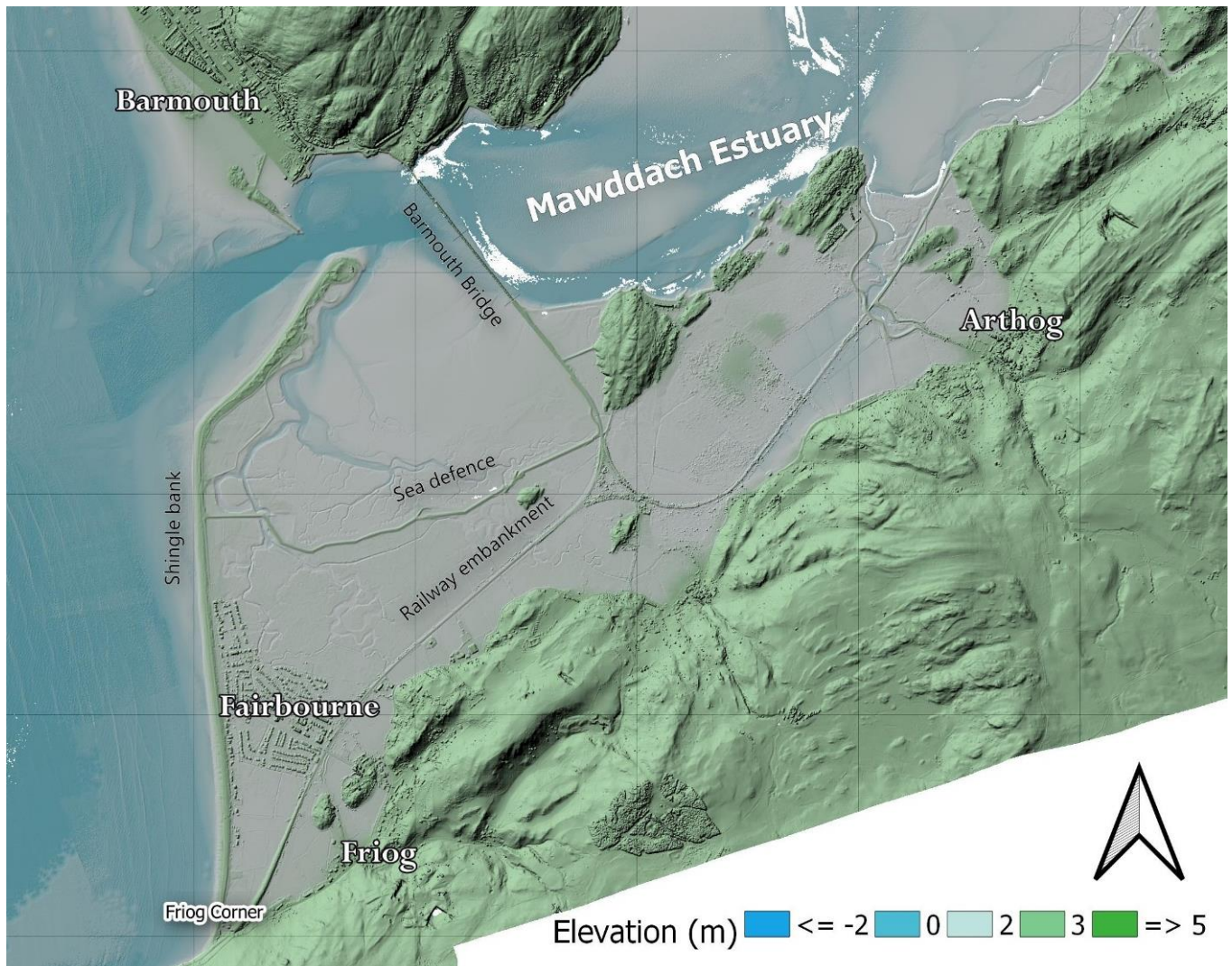


Figure 4. Map with elevation level showing Fairbourne, its sea defences, neighbouring places and the Cambrian coastal railway line. Map created for this thesis by Gijs Eijgenraam based on data from DataMapWales (Welsh Government, n.d.).



The climate mobility regime actors of Fairbourne Moving Forward thus argue that the ability of Fairbourne's sea defences to protect its inhabitants from sea level rise shapes inhabitants' mobilities. It is assumed that while the sea defences are able to protect the village from flooding, inhabitants are able to stay under low risk. However, once maintenance of the sea defences is ceased, the risk of flooding is argued to increase and inhabitants would need to be relocated. The climate mobility regime actors of Fairbourne thus argue that Fairbourne's specific material conditions are an important aspect that influences the risk of sea level rise to inhabitants.

#### 4.4.2 The Cambrian Coastal Line

The second essential infrastructure affecting the climate mobility regime of Fairbourne is the railway line. The Cambrian Coastal Line connects Machynlleth to Pwllheli, thereby passing through Fairbourne. The railway is the only line in this area of Wales and exclusively transports passengers. Management of the railway and bridge infrastructure falls under Network Rail, while Transport for Wales runs the trains. As the railway exits Fairbourne in the north, it crosses the Mawddach estuary via the Barmouth Bridge and arrives in Barmouth (Figure 4). The railway runs along the back of Fairbourne and is placed on an embankment. Alex Hinshelwood, program manager at Network Rail for Wales, says the embankment is about a meter higher than the ground level of the village. Where the railway comes down from the cliffs at Friog corner, it is even higher but gradually slopes down into the village (Figure 4 and 5). As the railway is on an embankment, it is more resilient to flood risk.



*Figure 5. The railway bridge on the south side of Fairbourne, near Friog Corner, where the railway line goes into Fairbourne from the hill (taken on March 10, 2023).*

Network Rail has not yet created a management plan for the railway in Fairbourne. This is primarily because the SMP2 has not included specific measures concerning infrastructure. The uncertainty surrounding Fairbourne's future under the 'no active intervention' policy complicates the design of necessary protective measures by Network Rail. Alex Hinshelwood, program manager at Network Rail and involved with the railway infrastructures in this area of Wales, highlights that several factors need to be considered. First, uncertainty regarding the physical environment results in several scenarios. If drainage systems and embankments in Fairbourne would be removed under 'no active intervention', enforcing of the railway embankment might be necessary. If waves would crash directly onto the railway embankment, this 'hard shoreline' would then possibly need rock armour to protect it. However, if Fairbourne would turn into a broader salt marsh, this softer shoreline would possibly only need some drainage. Alternatively, if current embankments would remain, the railway embankment might not need enforcing for a long time. Second, due to uncertainty in legislation, Alex Hinshelwood questions whether Network Rail would be permitted to build man-made defences in an area under 'no active intervention' policy (Alex Hinshelwood, personal communication, February 24, 2023).

Additionally, the funding process for Network Rail has not stimulated long-term planning. Network Rail receives funding from the UK government per five-year period, resulting in short-term plans per five-year period. As the SMP2 timeline for Fairbourne extends beyond the next five-year period, there are no plans for the long-term maintenance of the Fairbourne railway yet. According to Alex Hinshelwood, Network Rail is currently carefully watching the situation in Fairbourne and has not needed to spend money on Fairbourne yet. Essentially, it will depend on the sea level variables what defence would be necessary, which would consequently depend on the availability of funding. In general, Network Rail primarily works in a responsive manner, enforcing railway defences only when they have been damaged. While the

organisation has been trying to work more proactively, this has been difficult as it requires more consulting beforehand (Alex Hinshelwood, personal communication, February 24, 2023).

SMP2 has identified the railway embankment as an opportunity for defence for the parts of Fairbourne behind it. As most land behind the railway is undeveloped and on a higher level, the risks are low and maintenance is expected to be achievable. The SMP2 policy for the railway itself and the land behind it is therefore 'hold the line'. Consequently, Fairbourne Moving Forward has highlighted that research is required to understand whether the railway, if in use after the decommissioning of the sea defences, could be defended. This would also be dependent on funding (Fairbourne Moving Forward Partnership, 2019).

The Cambrian Coast Line runs along the coast, resulting in more vulnerable places, for example along the cliffs. Greg Guthrie and Alex Hinshelwood thus also consider the general feasibility of this railway with sea level rise. As the railway's repairs and defences are limited by available funding, conversations have been initiating to consider use of the railway in the long term and the possibility of cutting it off at some locations. However, the Barmouth Bridge, connecting the railway between Fairbourne and Barmouth, is being upgraded under a 30 million pounds restoration scheme since 2021 (Network Rail, 2021). This investment suggest it would be unlikely that the railway along the bridge and surrounding areas will be out of use soon.

The railway line passing through Fairbourne is an important infrastructural connection and thus raises questions about the possibilities of defending the railway on the long-term. From the SMP2, there seems to be a general opportunistic view that the railway embankment might be used as a defence for the area behind it. However, this would depend on the maintenance of the railway embankment, which is in turn dependent on the management of the coastal defences. Specific planning for the railway thus seems to be lower on the priority list and could possibly be started only once there is more clarity on the "decommissioning" of Fairbourne. The ambiguity of what will come first and which actors would be dominating the decisions results in uncertainty about the future of the railway. The railway might possibly allow people that live behind the railway to stay in Fairbourne, even when the rest of the village might be subject to sea level rise risk, but how this will be determined seems to be unclear.

## 4.5 Responsibilities

The previous sections have provided an overview of different policies and actors involved in the climate mobility regime. However, an underlying question remains: how has it been possible to create a timeline fraught with uncertainty, lacking specific relocation plans or compensation for affected residents? To answer this question, the legal responsibilities of the actors involved in the climate mobility regime are examined.

First, does legislation allow the discontinuing of sea defences? Are residents in the United Kingdom protected from sea level rise by law? In the UK, coastal protection agencies have been given permissive powers to carry out works on coastal areas, providing them with the authority to maintain sea defences. However, this authority does not constitute a legal obligation, as there is no statutory requirement for the UK government to undertake coastal protection works (Greg Guthrie, personal communication, February 23, 2023; Fareham Borough Council, n.d.). If justifiable, coast protection works can receive funding from UK government. Even though Fairbourne has been actively defended over the last hundred years and was still considered justifiable for defence in SMP1, no governmental body has the duty to continue defending the area under the newer circumstances of SMP2 (Greg Guthrie, personal communication, February 23, 2023).

Second, does legislation allow the eviction of people from their homes when sea defences are no longer maintained? According to Greg Guthrie, co-author of the Shoreline Management Plan as representative of consultancy Royal Haskoning, Gwynedd Council does not have a specific remit to relocate households or construct a new village. That has also not been the aim of the Fairbourne Moving Forward project. Instead, the project has aimed to initiate the conversation regarding the risk faced by inhabitants and the partial responsibility that lies within the community. Given the local government bodies' decision to stop defending the area without having the power to enforce relocation, the responsibility for initiating movement and taking action ultimately falls upon the inhabitants of Fairbourne. Consequently, the Fairbourne Moving Forward project perceives its role as facilitating the change (Greg Guthrie, personal communication, February 23, 2023).

Finally, did the combined permissive powers for coastal defence and the absence of authority to eviction people result in a lack of compensation for relocations of inhabitants? According to Greg Guthrie, the situation is more nuanced. In certain circumstances, when a defence is moved or new defences are built further from the sea, people may be compensated for relocation as an integral part of the new scheme. This is similar to where a new road is built over private property. The government can then fund the people to move as part of the new project. However, no new defences will be built in Fairbourne. The policy is alerting people to the risk. "In the UK, risk resides with the individual" (Greg Guthrie, personal communication, February 23, 2023).

## 4.6 Conclusion

This chapter has explored how the climate mobility regime of Fairbourne has shaped the mobilities of its inhabitants. It has shown how the West of Wales Shoreline Management Plan 2 questioned the feasibility of defending Fairbourne on the long-term within the bigger picture of coastal management in the United Kingdom. When it was decided to be unsustainable to continue to defend, the Fairbourne Moving Forward project has been initiated by Gwynedd Council to start discussing a plan for Fairbourne with involved actors. The SMP2 and Fairbourne Moving Forward have been the main aspects of the climate mobility regime, while interacting with media agencies and inhabitants and influencing mortgages systems and the railway line.

A few general conclusions can be drawn about the climate mobility regime. First, the SMP2 is the main policy that shapes all other facets of the climate mobility regime. Nonetheless, the SMP2 has not given specific instructions or frames on how to manage these aspects. Additionally, the SMP2 timeline is based on uncertain climate change projections. For these reasons, the SMP2 has created a complex climate mobility regime based on uncertainty, both regarding its timeline and the next steps to take.

Second, there seems to be a responsibility gap regarding the decision-making and governing of implications of SMP2. Legally, government bodies are not responsible for relocating Fairbourne's inhabitants. As the climate mobility regime does not have the authority to force people to move, it does not appear to be a matter of "forced relocation". However, even though the choice to relocate remains the inhabitants' own choice, the discontinuing of sea defence maintenance strongly urges them to move out. This could thus be classified as indirect or 'de facto' forced relocation.

Third, media agencies have played a significant role in shaping the atmosphere of the climate mobility regime of Fairbourne. They have spread a story with a definite ending about a situation that is still in progress. The effect of the media on inhabitants will be explored further in the next chapter.

In this UK governance context, the risk resides with the individual. The next chapter will look into how the community members of Fairbourne govern this risk in their daily lives.

## 5. Immobilities of Fairbourne inhabitants

The previous chapter showed which actors and policies are part of the climate mobility regime in Fairbourne and how they have shaped mobilities. This chapter explores how Fairbourne's inhabitants have experienced the effects of the climate mobility regime on their mobilities, including their willingness and potential to move. The chapter starts by providing background to how inhabitants generally experience life in Fairbourne. The second section explores how the climate mobility regime has influenced mobilities of inhabitants, divided into subsections to show the different ways in which the inhabitants' mobilities are shaped. Finally, the conclusion summarizes the key insights of the chapter.

### 5.1 Living in Fairbourne

Generally, inhabitants have described living in Fairbourne as being quiet, calm and safe and most enunciate that they live in a beautiful area with the view of the mountains, the Mawddach estuary and the sea (Figure 7). On bright days, one can see the mountains on the peninsula towards the north when looking out over the sea (Figure 6). Another positive and important aspect to most interviewees is the community. People have described how people here look after each other's children and drive each other to the hospital. This gives a feeling of safety. Interviewees have described how they do not feel scared walking their dog outside at night in the dark and how they feel no need to lock their doors, because they do not need to worry that anything would happen. Interviewee Stanley describes living in Fairbourne as follows:

*"It is just peace and serenity. Living here, it is a lifestyle that money cannot buy. It is safe here, there is no nastiness, no fear. We don't even have any police here. It is a nice place to live."*

– Stanley (community #12)

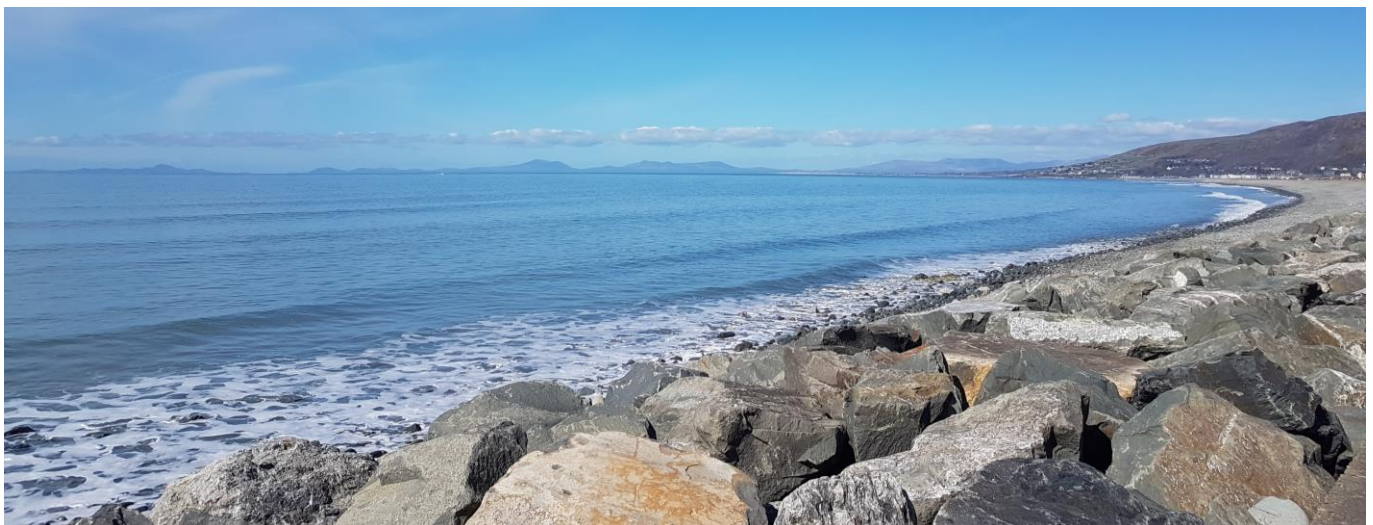


Figure 6. View from the shingle bank at Friog Corner towards the mountains of the Llŷn Peninsula in the north-west (taken on March 27, 2023).

When asked about the negative aspects of living in Fairbourne, the lack of access from services, health care and bigger shops were mentioned often. Some, mainly people under 50 years old, also mentioned the quietness as a negative aspect, as shops in Fairbourne close early in the evening. Some do not like the small town gossip. Finally, public transport options were also said to be limited. Negative aspects of living in Fairbourne thus generally seem to connect with living in an isolated small village, which would apply to more coastal villages in Wales and other places. The negative aspects are thus not so much linked to living in Fairbourne specifically, but mostly to living in a small village in an isolated area. When mentioning these negative aspects, people also often highlighted that it is not a big issue for them. This



makes sense, as they have chosen to live here, so for most, the positives would outweigh the negatives. As an interviewee puts it:

*“People who live in Fairbourne, have chosen to live in Fairbourne.”*

– Alison (community #1)

Reasons for people to live in Fairbourne are explored further in the next section.



Figure 7. View from the shingle bank at Friog Corner towards the mountains along the Mawddach estuary in the north-east (taken on March 2, 2023).

## 5.2 Mobilities of Fairbourne inhabitants

This section explores the mobilities of Fairbourne inhabitants under the climate mobility regime. First, reasons why people moved into Fairbourne are discussed. Most inhabitants are not planning to move because of the flood risk, at least not right now, which is explored in the second section. The third section analyses the reasons that people have moved to Fairbourne after the policy change in 2014. Fourth, there are people that have moved out of Fairbourne since 2014. This thesis is not focused on the people that have left Fairbourne, but as I had the opportunity to talk to a family that moved out of Fairbourne to a neighbouring village, this interview will be briefly discussed in the fourth section. The fifth section discusses the voluntary and involuntary immobilities of Fairbourne's inhabitants. The final section points out the historical aspect of climate mobilities in the area of Fairbourne.

### 5.2.1 The choice to live in Fairbourne

This section explores why people have chosen to live in Fairbourne, how they moved here and where they came from. Interviewees have lived in Fairbourne between 2 and 66 years, of which the majority (16 out of 19) of inhabitants has lived here for more than 10 years.

Some interviewees have lived in Fairbourne or in neighbouring villages all their life. Not all interviewees have lived in Fairbourne continuously; some have moved back and forth to other places, but have always come back to Fairbourne:

*“I have lived here all my life. I have moved away a couple of times, but I have always come back.”*

– Karen (community #17)

Another interviewee who grew up in Fairbourne says he has lived here all this life and also mentions that he just moved back to Fairbourne after being away for seventeen years:

*"I have just come back now, I was away for seventeen years. I came back in November. I came back because my dad is getting old."*

– Tony (community #16)

Even though they have lived in other places, these people have still been connected to Fairbourne. This shows an aspect of the relation between mobilities, community and identity: someone who says they have lived someplace all their life does not necessarily need to have lived there continuously all this time, but as they stay connected to the people and the place they do identify as living here. They have moved back to stay with family and the community. Karen described she wanted her daughter to grow up here, while Tony mentioned he moved back because his father, who still lives in Fairbourne, is getting older, so he moved in with his father.

People who did not grow up in Fairbourne moved in from local villages in the area or from England. I have interviewed people that moved to Fairbourne from Tywyn, Friog, Arthog or Llwyngwril (see Figure 1 for a map of the nearby villages). Wil (community #21) has lived in Arthog and Llwyngwril, as his parents are from those villages, and he moved into Fairbourne in 1990. Stephanie (community #18) grew up in Tywyn and moved to Fairbourne about five years ago for her partner (community #22), who lived in Fairbourne already. Amanda (community #10) moved to Fairbourne two years ago, from Friog. She used to live up the hill on a farm, but she and her partner decided to move down to Fairbourne as they were getting older and did not want to get up and down the hill on the long-term. She explains that the move to Fairbourne was about convenience and about the community:

*"This place is convenient. It is closer to the shops, it does not have a gate so you can just ride out with the car, you can even walk to the shops and there is a train station. (...) We also considered going to Dolgellau or Barmouth, but both our sons still live here, and we have grandchildren, and the community, we know everybody. We really wanted to stay here really."*

–Amanda (community #10)

People who moved to Fairbourne from England, either came from the Midlands, which is an area in the middle of England on the east border of Wales, or from (nearby) London. Most people that are not local to the area of Fairbourne, know the place via family members that live(d) here or came here on holidays, as Barmouth is a popular holiday destination for people from England:

*"We came down here to visit my mother-in-law and we liked the beach here. Then we moved here."*

– Stanley (community #12)

*"My father had moved here about 10-15 years before, then I was living in South Wales and lost my job there, so I thought I would come up here for a bit, and then I just stayed. We had been on holiday as a kid to Barmouth. I had never come up here, we always used to look over and see this place. It is just by chance that my dad moved here. He moved just for a change. He was looking for anywhere along the Welsh coast and came to live here by chance. That was 25 years ago."*

– Mark (community #15)

*"We knew this place because we used to go to Barmouth on holiday."*

– Peter (community #9)

It is difficult to categorize people based on where they live or come from, as many people have moved during their lives but have also stayed connected to other places through their family members. Alison explained that she is from Wales originally, but lived in the Midlands most of her life and has come to live in Fairbourne through her parents who retired in Fairbourne:

*"I moved to Fairbourne in 2013. I had a business in Reading, which I sold because I was coming up to retirement age. My dad said to me, come up here and spend some time with me and your mum. My parents had lived in Fairbourne for 40 years, so I have been aware of Fairbourne for a long time. We are from South Wales. We are Welsh, non-speaking Welsh. We had moved around a lot, we left Wales when I was 5 years old. Then my dad retired in the Midlands. He and mum had always planned to come back to Wales for retirement and they chose Fairbourne."*

– Alison (community #1)

The choice to live in Fairbourne is thus mainly connected to having a community, either by growing up there or having family members in the village or the nearby area. The next section explores why people have stayed in Fairbourne under the uncertain circumstances since 2014.

### 5.2.2 Staying under uncertain circumstances

The majority (16 out of 22) of interviewees lived in Fairbourne previous to the policy change in 2014 and have thus experienced the uncertainty for the future of Fairbourne after they were settled. They still live in Fairbourne. This section aims to explore why people have stayed under the uncertain circumstance. Their mobilities have been shaped by two aspects: their motilities (ability to move) and aspirations (willingness to move).

#### Motilities

The climate mobility regime has affected the motility of inhabitants in several ways. First, the media coverage by the BBC programme *Week In Week Out* about the "decommissioning" of Fairbourne affected homeowners as the house values in Fairbourne decreased with 40% after the television programme came out. The majority (83%) of inhabitants in Fairbourne owns their home (Fairbourne Moving Forward Partnership, 2019). House values in Fairbourne were already relatively lower than the national average, but the news caused house values of people in Fairbourne to reduce significantly in value compared to other areas in Wales or the United Kingdom. This means that although it might have been difficult to move to another area before the news came out, it has gotten more difficult with the decreased house values. Homeowners have been limited in their mobilities by being able to sell for a low value only, leaving them with insufficient funds to buy a house in another area where prices are significantly higher:

*"We lost 40% of the value of our property, which means that if we would sell up, we would not have enough money to buy somewhere else. I would not be able to move, as are a lot of people."*

– Gillian (community #6)

*"Financially, it is not possible for us to move to the Midlands. The house prices there are much higher than here."*

– Fred (community #11)

Motility then depends on whether people have savings or if they have invested their money into their house. Out of the 19 interviewees, 7 interviewees said that the financial situation in Fairbourne limited

them in moving out and/or selling their home<sup>1</sup>. One of them, Constance, a woman living on her own, has invested all her money into her home and is thus fully dependent on the house values:

*“Some have some extra cash I suppose, which I haven’t. All my money is in my home.”*

– Constance (community #5)

Two of those homeowners that are limited in their movement, have been reassessing their priorities and are mentally and financially preparing for a potential move. The uncertainty regarding compensation and the possible relocation has made inhabitants Wil and Joanna (community #21) and Alison (community #1) save money in case they might need to move:

*“If you have money in the bank, like myself, you have to think: do I leave that there in case I get turfed out, would we have enough money to buy something someplace else. The answer is: probably no, not inlands, and you wouldn’t want to buy another coastal property with sea level rise.”*

– Alison (community #1)

They both do not expect to be supported financially by local government in finding a new place:

*“In our daily life, we have rained back on spending. Keep everything just in case we need to find somewhere else to live. They won’t find us anywhere to live. The council will focus on the old people and people with children, we will be left to fend for ourselves. It might not happen, but I don’t want to be left with nothing. We asked: would there be compensation, and the answer was: no.”*

– Wil & Joanna (community #21)

Not only finances are limiting, also other factors play into inhabitants’ ability to move. Jean, who is disabled, mentions that she is not able to move because of the financial situation as well as her physical situation. She has invested in her house by putting solar panels on, mainly for the sake of the environment. When I asked if she was planning to stay in Fairbourne, she said:

*“I have to, I cannot move. I physically cannot move, financially I cannot move. I put so much money in it, I owe 14,000 pounds until I die or sell, then 18% goes back. It would sell for very little value.”*

– Jean (community #4)

The house values have been increasing over the last years. Several people have mentioned the COVID pandemic as a cause for more people from urban areas moving to places like Fairbourne:

*“People were selling below the value. So we have lost value in the properties. It’s never been made up since, although the property values have gone up, especially since COVID, they still do not match the other properties in the area.”*

– Gillian (community #6)

However, inhabitants also mention that the house values have not risen in line with the rest of the country, resulting in a significant difference in value with the rest of the country. The motility of

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<sup>1</sup> Community #1, community #4, community #5, community #6, community #9, community #11 and community #21, who are all homeowners.

Fairbourne's homeowners is thus dependent on their house value on the market, as they would need the money to buy a new home some place elsewhere.

Another financial aspect that has influenced motility of Fairbourne inhabitants is the lack of mortgages. Mortgages have not been given out since 2014 because of the reported high flood risk. People wanting to buy a home in Fairbourne could thus not rely on the financial help from a bank, making them dependent on their own savings. This influences inhabitants' ability to move within Fairbourne, particularly inhabitants wanting to go from renting to buying a house. Especially younger people, who mostly rent and do not have as much savings, are now limited in buying a property in the village<sup>2</sup>. When asked if she would be able to buy a property in Fairbourne, interviewee Lisa said:

*"Well, I am really bad at saving money, so no, but if I had the money, I probably would buy something here. Just because it's more stable than renting somewhere, isn't it."*

– Lisa (community #13)

Michael (community #20) said that he would have wanted to buy a house in Fairbourne if there was a possibility to get a mortgage. As it is not possible, he remains on the property of one of his family members, who is a homeowner. Another example of how family has helped in a living situation is what Amanda told me. Her son was able to buy a house in Fairbourne with her financial help:

*"He has bought a house in Fairbourne, with our help, because when my mom passed away, we sold her house. He got a bargain. It is cheaper than renting."*

– Amanda (community #10)

However, this is not an option for everyone. Generally, this area of Wales has less economic opportunities or high-paid jobs than the national average:

*"The young people of this village, never had and probably still do not have the opportunity to buy a property here. The 'bank of mum and dad' does not really exist here. This is a low-paid area."*

– Alison (community #1)

For the people who rent, the decrease in house values does not affect them in the same way:

*"I am not indifferent, but.. I don't own a house here, I have got nothing tying me to here. (...) I do care, but I think by then I might have moved away anyway. If you know what I mean. The flooding does not affect my life right now, it is not making me think ahead."*

– Lisa (community #13)

Inhabitants that rent are more flexible to move. They do not need a buyer for their home:

*"I think the majority of ownership of properties is done by older people here. Majority of property rental is done by younger families, so it is easier for them to move out. That is how you end up with the situation of an older population being trapped in a vulnerable position."*

– Gillian (community #6)

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<sup>2</sup> The majority of inhabitants in Fairbourne owns their home, while a small part of the community rents a property. According to the Fairbourne Moving Forward project group, 83% of Fairbourne's inhabitants is a homeowner (Fairbourne Moving Forward Partnership, 2019). Of the 19 people that I interviewed that live in Fairbourne, 4 interviewees rent a property (21% of the interview sample), while 15 of the interviewees living in Fairbourne were homeowners (12 people, 63% of the interview sample) or living with someone who owned the house (3 people, 16% of the sample size). All 4 renters I interviewed were under 40 years old.

The decrease in house values as a result of the media attention for Fairbourne has thus mostly limited homeowners who live in Fairbourne in their ability to move away and inhabitants in Fairbourne that would want to buy a property instead of renting. Still, renters are less affected by the financial conditions, as they have invested less in their homes and thus have a higher ability to move out of the village.

However, whether people decide to move depends also on their willingness to move. The next subsection explores the aspirations of the inhabitants that have stayed.

### Aspirations

Next to people's financial and physical ability to move, inhabitants' aspirations have influenced them still living in Fairbourne. The majority of interviewees<sup>3</sup> (13 out of 19 inhabitants) wants to stay in Fairbourne and are not planning to move any time soon. Alison is one of the majority that wants to stay. She said that she and her partner love the community and the scenery (see also Chapter 5.1):

*"We chose to stay here, because this is what we love."*

– Alison (community #1)

I have noticed different ways of thinking amongst interviewees who plan on staying in Fairbourne. First, some people have chosen to stay because they believe they will not be affected for different reasons. Four of the interviewees<sup>4</sup> were retired older persons, who argued it will not happen in their lifetime. Some of them think it might flood in the future, but that it will be on such a long term into the future that they do not need to move now:

*"It won't happen in our lifetime, but it is for the kids."*

– Peter & Caroline, older persons (community #9)

*"Chances are I won't be here when the village goes."*

– Gillian, older person (community #6)

Stanley has another reason why he thinks he will not be affected. He lives behind the railway in Fairbourne and expects the railway will act as a defence in case of flooding, thereby protecting his house from the sea:

*"I am on this side of the railway line. So if the village goes, I'm at risk for losing my lifestyle. But not at risk for losing my properties."*

– Stanley (community #12)

However, most houses in Fairbourne are in front of the railway embankment, so this reasoning was not common among other interviewees.

There were also interviewees, five in total<sup>5</sup>, who did not think their lives will be affected, because they think the plans for decommissioning will not go through or they do not believe Fairbourne will flood:

*"Whereas the reality is: it's not going to happen. They used bigger aggressive figures on sea level rise for here than for anywhere else. Worst-case scenario."*

– Wil & Joanna (community #21)

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<sup>3</sup> Community #1, community #2, community #5, community #6, community #7, community #9, community #10, community #11, community #12, community #15, community #16, community #17 and community #20.

<sup>4</sup> Community #4, community #6, community #9, community #11.

<sup>5</sup> Community #1, community #7, community #15, community #16, community #21.

Second, in two interviews<sup>6</sup>, inhabitants said that they plan to stay, but have also accepted that there is a possibility that it might flood at some point while they are still living in Fairbourne. They have been preparing, either mentally or financially, for a potential future move in case it would be necessary because of the flooding:

*"We would quite like to do the kitchen up. But even now, we have to think: should we spend that money or keep in in the bank, just in case? We are thinking of that worst case scenario."*

– Alison (community #1)

*"We are trying to save as much as we can, so we could buy another property somewhere if we needed to."*

– Wil & Joanna (community #21)

Third, a minority of 3 interviewees<sup>7</sup>, all under 60 years old, want to stay for now, but would like to move in the future for personal reasons that are not connected to the uncertain future of Fairbourne:

*"I think in the long-run I would like to live in the sun anyway, so that has nothing to do with that. Probably another country. (...) I don't know how long I am going to be here, but ultimately I would like to retire somewhere in the sun I guess."*

– Gavin, middle-aged person (community #22)

*"I don't know if I would want to stay in Fairbourne anyway. Nothing to do with the future. I like the busyness of a city."*

– Stephanie, younger person (community #18)

However, the above ways of thinking cannot be seen as clear cut categories. Inhabitants often mentioned different reasons in the same interview. For example, Wil and Joanna said that they do not believe Fairbourne will flood, but are also saving money just in case they might need to move. Similarly, Alison said that she wants to stay, but she is also saving money just in case. The uncertainty of the climate mobility regime thus might also result in people adopting several scenario's in their minds.

I have spoken to one inhabitant who would want to move out of Fairbourne right now. Jean (community #4) has a tense relationship with her neighbours. However, she is not able to move due to physical limitations and the financial situation in Fairbourne. Her motility and aspirations do not align, making her an example of a trapped individual under the climate mobility regime.

All in all, the majority of inhabitants want to stay in Fairbourne and are planning to do so. Older people are generally planning to stay for the rest of their life and do not think they will have to move, as flooding or decommissioning would not happen for another couple of decades. However, most of them would also not be able to move financially, even if they wanted to go. A smaller group of younger people generally want to stay in Fairbourne for now, but also consider moving away in the future, without it having to do anything with the flood risk. They are mostly renters, making them more flexible to move without having to prepare for it now.

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<sup>6</sup> Community #1 and community #21.

<sup>7</sup> Community #13, community #18 and community #22.

### 5.2.3 Movement into Fairbourne after 2014

People that have moved into Fairbourne after 2014 and bought a house, have done so without being able to get a mortgage. Inhabitants have observed that houses still get sold and bought. Essentially, this is a good thing because it keeps the village thriving and vibrant:

*“The turnover in properties has been good, we have not turned into a ghost town with lingering empty properties. The effect of COVID, people from inland wanted the quiet, rural life, with gardens for kids and dogs. Inland, you can sell a property, e.g. in Reading, a mid-terraced house, would sell for about 350,000-400,000 pounds. You can buy a bungalow in Fairbourne for 70,000 pounds. Stuff the money in the bank and don’t worry about working again.”*

– Alison (community #1)

According to inhabitants, this did cause a demographic shift in the village towards an older community:

*“There are at least two couples that moved down here from Oxfordshire, which has a higher value of properties, so they are able to buy here and have cash to take them through life. The problem with that kind of migration, an older community moving into a community like this, is that it puts pressure on the caring facilities and services. You get a more vulnerable community sitting in an area that is at risk.”*

– Gillian (community #6)

I had four interviews with people that moved into Fairbourne after 2014. One of those interviews was with Peter and Caroline, a couple in their seventies who moved from the Midlands to Fairbourne in 2018. They bought a house together with their daughter’s family:

*“We did not need a mortgage because we bought the house. We sold our house and my daughter sold her house, and together we bought this.”*

– Peter (community #9)

They are an example of cash buyers that were able to buy a property in Fairbourne as they had sold their home in the Midlands.

Two other interviewees that moved into Fairbourne after 2014 both came here to live with their partner. Stephanie (young person, community #18) moved from Tywyn to live with her partner Gavin (community #22), who owns a home in Fairbourne. Ben (young person, community #14) moved from Birmingham to Fairbourne to live with his partner. He moved in with her and her family and pays a weekly rent to the family. He says it is difficult for younger people to buy something here, resulting in most young people renting.

The last person who moved into Fairbourne after 2014 is Amanda (community #10). She lived in Friog, so she was already involved in the community in and around Fairbourne. Her reasons for moving to Fairbourne were described in section 5.3.1.

People moving into Fairbourne since 2014 thus seem to be either people that already lived in the local area, people that moved to Fairbourne for their partner, or people that came here for their retirement from the Midlands. However, this sample is quite small with only four interviews, so no definite conclusions can be drawn from this information.

### 5.2.4 Movement out of Fairbourne since 2014

Several interviewees have mentioned that people have been moving out of Fairbourne since 2014:



*“Quite a few people moved, not solely because of the future. There was always a reason. A lot took a big hit on the value of their house.”*

– Stanley (community #12)

As my research focus was not on the people that have moved away, I do not know the reasons why most people moved first-hand. It could have been for common reasons, people moving for a job, or family selling the house of their family member that passed away. For example, Amanda (community #10) sold the home of her mother in Fairbourne. Several inhabitants also mentioned that some people panicked and moved out because of the situation:

*“Some people took the sting, and moved, because they couldn’t live with uncertainty anymore.”*

– Alison (community #1)

I have spoken with one couple that moved from Fairbourne to Llwyngwrl. They moved to Fairbourne in 2005, because they wanted a place to live that was close to their workplace in Arthog and the housing in Fairbourne was affordable. In 2015, they moved out of Fairbourne to Llwyngwrl, a village south of Fairbourne. Their main reason for moving out was because his older father was coming to live with them so they needed a bigger house for that. His father lived in England and with the money of selling his house, they could afford a bigger house in the area. Nevertheless, Susan and Scott also mention that they moved out of Fairbourne so that they could relax about the sea level rise:

*“If there would have been no sea level rise, we would have stayed for a while, 5-10 years, probably, although it might have been too small for the children. (...) We moved away from Fairbourne so we did not have to worry about the flooding”*

– Susan & Scott (community #19)

They lost some value on their house as they sold it for less than they had bought it for, but in their case this was not an issue as they had the money from the house in England. The couple who bought it from them was a couple who were looking forward to live there for their retirement and who did not worry about the flooding.

### **5.2.5 Voluntary or involuntary immobilities**

Mobilities among inhabitants differ per individual situation, but generally most people that want to stay would also not be able to move easily. Their immobilities are thus voluntary, because they want to stay, but it is also partly involuntary as they would not be able to move financially, even if they would want to. If they would have been able to move financially, perhaps people would have done so earlier. They might have wanted to move if they were financially free to do so. It is difficult to establish which exact factors drive people in their choices and in this case, there seems to be a grey area between voluntary and involuntary immobilities of inhabitants. The climate mobility regime also has had a differentiated effect on community members, as it depends on the financial resources and independence of individuals and households whether inhabitants could permit to lose value on their home when selling and moving.

Inhabitants that would want to move eventually have been more flexible in their living conditions as they rent and thus are voluntary immobile for the moment. This also shows how mobility aspirations are not permanent but can change over time.

A few interviewees I have talked to would like to move but cannot due to their investment in their house, which is now reduced in value. Jean (community #4), who invested quite some money into her home and is also not able to move physically, mentioned she does not have many friends in the community and that some of her neighbours treat her horribly. She would thus like to live somewhere else, but she

has to stay because she cannot move. She is thus involuntarily immobile and thereby trapped in Fairbourne due to the effect of the climate mobility regime.

### 5.2.6 Historical climate mobilities

Four community members<sup>8</sup> have addressed the fact that the sea has always shaped human movement historically. Due to two specific landmarks in the area, inhabitants seem to be reminded of this often. First, Harlech castle, an historical castle approximately 20 kilometres up North from Fairbourne, and second, Bird Rock (Craig yr Aderyn), a hill rock near Tywyn, approximately 7 kilometres from the coast. Both were mentioned as proof that the shoreline used to be further inland:

*“A lot of the valleys around here are land reclaimed from the sea anyway. In the Dysynni valley, Bird Rock has sea birds on it, so back in the days that used to be a coastal cliff. I don’t know whether the sea has retreated. Also Harlech Castle up the coast, which would have come to the sea. Some people might say that the land that is flooding used to be sea anyway. A lot of folks aren’t that bothered because it used to be sea anyway.”*

– Scott (community #19)

*“If you look at Harlech Castle, the sea used to be up to Harlech Castle. That is an example of how nature will take and give back bits of land.”*

– Stephanie (community #18)

*“It’s all in cycles. Years ago, Bird Rock, the tide used to be up to there anyway. This all just used to be covered by water anyway.”*

– Wil & Joanna (community #21)

This acknowledgement of historical sea level differences seems to add to people’s argumentation and acceptance of the idea that sea level rise might happen to Fairbourne.

### 5.3 Conclusion

This chapter has discussed how the climate mobility regime has influenced the mobilities of inhabitants by showing inhabitants’ motilities and aspirations. The majority of inhabitants wants to stay in Fairbourne. While several younger or middle-aged interviewees have mentioned the possibility of moving out for a different lifestyle at an undefined moment in the future, older persons have stated to stay in Fairbourne for the rest of their life. While the uncertainty has driven some people out of the village over the last decade, the village has also seen the arrival of new community members who were able to acquire a property in Fairbourne by benefitting from the relatively cheap house values.

The short-term mindset regarding the prospects for the village has materialised into a lack of investments in private properties, an excessive reduction in house values and no ability for mortgages in Fairbourne. Inhabitants with tighter financial resources have been limited in their ability to move to other areas, as the property value has been below the United Kingdom average.

Finally, the case of Fairbourne presents a grey area between voluntary and involuntary immobility. While inhabitants generally want to stay, most would not be able to move regardless of wanting to stay or move.

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<sup>8</sup> Community #6, community #18, community #19 and community #21.

This chapter has highlighted how the climate mobility regime has influenced the mobilities of inhabitants. The next and final results chapter explores how inhabitants have interacted with the regime and resisted it in different ways in order to influence the regime and its effect on their daily lives.

## 6. Interacting with the climate mobility regime

The climate mobility regime's decisions have affected the daily lives of inhabitants in Fairbourne and have raised questions, incomprehension and resistance amongst the inhabitants of Fairbourne. This chapter shows in which ways inhabitants have navigated, interacted with, shaped and resisted the climate mobility regime. The first section shows how inhabitants of Fairbourne experience and navigate the overall uncertainty of the climate mobility regime. Second, the interaction between the inhabitants and the media is analysed. The third section discusses the role of science within shaping the regime. The fourth section explores how inhabitants have shaped the climate mobility regime by questioning the underlying reasoning. In the fifth section, community involvement is explored as a way for inhabitants to shape the regime. Finally, the sixth section summarizes and concludes this chapter.

### 6.1 Navigating the uncertainty of the climate mobility regime

As the plans of the Fairbourne Moving Forward project are still in development, it is uncertain if, how and when people would be forced to move out. The uncertainty of the climate mobility regime for Fairbourne has been experienced by inhabitants in different ways.

First, some inhabitants have been worried about the possible implications of the SMP2:

*"We chose to stay here, because this is what we love. It does come at a cost. It comes at a well-being and mental costs."*

– Alison (community #1)

Others have chosen to wait and see, as they do not want to worry when the outcome is not clear yet:

*"I just wait and see. I am not overly worried, I am concerned and I think about it, but I am not ready to buy a boat just yet."*

– Gavin (community #22)

*"A lot of people are probably worrying too much about it and making themselves stressed out. I am very much of the mindset that if I can't control it, I just forget about it and carry on. If you can't do anything, what is the point of worrying about it?"*

– Mark (community #15)

However, recent changes in the climate mobility regime related to the HIA newsletter saying "there are no current plans to decommission the village" (Fairbourne Moving Forward, 2022) (see Chapter 4.2.3) have influenced how some interviewees think about the situation. Some have taken the announcement seriously and hope this will be the end of talk about "decommissioning" the village. However, some interviewees also highlight that it remains unclear what the practical implications of this sentence will be:

*"So there was this newsletter about the Health Impact Assessment. The last sentence of the introduction says "There are no current plans to decommission the village". That does not mean never, does it?"*

– Constance (community #5)

*"Now, it seems to be a lot more positive. We talk to people and they all seem to think so. You don't get anyone knocking on your door and telling you: by the way, you are safe. It is just rumours."*

– Peter (community #9)

Michael has interpreted it as if the timeline will be moved forward, meaning the current Fairbourne population would not have any issues in their lifetime:

*"I honestly don't know what they are going to do with the policy on the future. I am pretty sure they will give us a limit on the village again, but the 40-50 is gone, you are looking more at 100-150 years. Things have to be put in place, but they are not in mine or my child's lifetime, or their child's lifetime, so there is three generations before people are going to have to start worrying about it again."*

– Michael (community #20)

The HIA newsletter is no official policy document and it gave no further comment on what this would mean in practice. Although it seems to have turned plans for Fairbourne in a more positive direction, it remains uncertain what this would change for inhabitants.

Second, the uncertainty surrounding the future of Fairbourne has influenced the choices people have made in terms of investing in their properties. An example is Amanda (community #10), who moved from up the hill in Friog into Fairbourne. They bought their current house in Fairbourne because it is on a higher part of the village:

*"We did consider the height of the land of our property. We were reluctant to invest."*

– Amanda (community #10)

Karen, who is currently renting in Fairbourne, said she would not buy a house in Fairbourne as the situation is so uncertain:

*"I would not buy a property here, because of the uncertainty. I'm not stupid like that."*

– Karen (community #17)

Wil and Joanna have their own construction business and mainly do upgrades and extensions to private homes. They have also noticed that inhabitants are reluctant to invest in their homes. Before the news came out in 2014, they had worked mainly on homes in Fairbourne. Overnight, all their construction work in Fairbourne was cancelled. They have built up their business over the years in neighbouring villages, mainly in Aberdovey, but do not expect to come back to work in Fairbourne:

*"We don't get any work in Fairbourne now. We have been out of the way and out of touch with people."*

– Wil & Joanna (community #21)

Alison, who said she can be quite worried about the future of Fairbourne, is also reluctant to spend money on her home:

*"We would quite like to do the kitchen up. But even now, we have to think: should we spend that money or keep it in the bank, just in case? We are thinking of that worst case scenario."*

– Alison (community #1)

Gavin (community #22) is not too worried about the flooding or money and wants to be comfortable in his home. He has upgraded his home over the last years and is planning on putting in double glazing.

The uncertainty in Fairbourne's climate mobility regime has affected how inhabitants look at the future and whether they would invest in their homes. The next section explores how this uncertainty has influenced the mobilities of inhabitants.

## 6.2 Media in the climate mobility regime

For many inhabitants of Fairbourne, the BBC Week In Week Out programme in 2014 was their initial introduction to the uncertain future facing the village in the long-term (see Chapter 4.3):

*"It was the documentary from BBC how most of the community found out. (...) People have got really upset by the BBC, because it portrays it as a bleak little place, which it is not. It is the opposite."*

– Susan & Scott (community #19)

When asked how she had first heard about the future of Fairbourne, Constance said:

*"I saw it on the BBC Week In Week Out programme. I was in shock."*

– Constance (community #5)

The Arthog Community Council had been informed by Gwynedd Council before the BBC programme was broadcasted, but they had not had the opportunity to communicate with the village yet:

*"Then BBC Week In Week Out came here, which came out about 6 or 7 months after we knew about the plans. It was on television before we had had the chance to talk about it to the community. The villagers, to say they were pissed-off is an understatement. They were really annoyed. It threatened everything they've worked for. Some accused the ACC of maladministration for not telling them. But I said: how can we tell you something that is hypothetical?"*

– Stanley (community #12)

Fairbourne has been covered in numerous news items since the BBC programme. Interviewees have seen many media agencies in the village:

*"There are many news reporters. They are sometimes even waiting outside the shops for families. The reporters, they give some of the information, but not all information. That is of course what the news does. They take snippets of the situation. There are a lot of documentaries."*

– Karen (community #17)

*"There are still a lot of journalists. You get used to it. The day before yesterday I was walking the dog and I met some Japanese looking students with a camera. They asked if I could answer some questions. It was cold and I was wary so I denied."*

– Amanda (community #10)

Some interviewees see the media attention as something that can be used to create attention for the case and for the village. Lisa (community #13), who works in one of the shops, said that business has become busier since the media attention. Michael stated that they might be able to use the media to push Gwynedd Council to do something:

*"Otherwise we will just go back to the national press and just slight the council again, because it has just gone beyond a joke the way they have treated the village for the last 9 years."*

– Michael (community #20)

Also Stanley (community #12) recognised how the media can be used to shape the climate mobility regime:

*“The media attention has been a double edged sword. Any news and talk is good, because it keeps the subject poignant. People don’t like it: they say they have twisted their words. I don’t give a damn. Whether they have come to the village and said nasty things, it doesn’t matter, it keeps the subject poignant and afloat. I suppose I am the only one who thinks about it like that. People say they are not going to talk to people about it anymore. I say: no, you have to keep going until the village is totally safe. So many are almost losing faith.”*

– Stanley (community #12)

Stanley's observation highlights that inhabitants generally consider the media attention as intrusive and as resulting in negative consequences for the village. While Lisa did not object to it personally, she has noticed that other people have disapproved of how the media has portrayed Fairbourne:

*“Things have been twisted a bit on the news. They have not mentioned that Barmouth has flooded worse than we did. They have shown clips of Aberystwyth sea front, rather than us, because they get really bad waves. So I think they have twisted a lot of things, which has annoyed a lot of people.”*

– Lisa (community #13)

Other inhabitants also highlighted the negative effect of the media programmes:

*“I wouldn’t agree with the way the BBC have done things. If it wasn’t for them, I don’t think it would have been so harsh on us.”*

– Michael (community #20)

*“There are many other villages that are going through the same thing, but they are not in the media so we haven’t heard about it.”*

– Stephanie (community #18)

The media attention has put Fairbourne in the public eye and has portrayed Fairbourne as the example of climate change in the UK, referring to the inhabitants as the UK’s first “climate refugees” (Crump, 2019; Gerretsen, 2022). Fairbourne’s inhabitants have refused this label:

*“The media says things like “the first climate refugees” of the UK in the village of Fairbourne. This is not correct.”*

– Amanda (community #10)

Alison has participated in different media programmes over the years, sharing her experiences as an inhabitant of Fairbourne, but has decided to stop talking to the media recently. She explained why:

*“We are hoping for a quieter period. We are hoping to step back from people constantly asking for information, especially TV companies. There have been loads of journalists since the beginning of this year. To be honest, it gets you down. Not only that, but people will look at it and say: her again? I think we have done it to death now. Only the last two months, loads. The Daily Mail, but they got it wrong again. They picked up things online and repeated: 2054 and decommission. Some media get it right: ITV news, Jan 30th, they changed the narrative. But the biggies, BBC, etcetera, they still sometimes get it terribly wrong. You think: here we go again. Is it going to affect property values? Is it going to affect the tourism?”*

– Alison (community #1)

While she considers some media programmes to have done a good job at telling the situation as it is, the negative and definite narrative of “decommissioning” Fairbourne can still be found in recent media items (Ward & Austin, 2023). Later in the interview, Alison added:

*“We do not like to keep doing these interviews. But if I don’t want to talk to them, they will ask for a comment of Gwynedd, who will say no, which is negative. Catch 22. I don’t want to do anymore. I am done now.”*

– Alison (community #1)

Alison has felt an obligation to interact with the media to avoid them telling an untrue story with possible negative consequences. As the situation has taken a mental toll on her, she has now decided to stop. More local people avoid talking to the press. Several other interviewees have participated in interviews before, but noticed that the media had twisted their words. Most have therefore refused to participate in media interviews anymore. Michael shared his view on this:

*“The reason a lot of us don’t like talking to the press, is that once you sign that waiver, they can take your words and they can edit them exactly how they want them. You have given permission to use your words. What order they use your words in, is a big thing. I got an interview and I didn’t like the way they had used my words and twisted what I had said. From then on, I had stopped doing all interviews, because I didn’t want my words twisted again.”*

– Michael (community #20)

There is a fatigue in the village of having to deal with people from outside the village:

*“There is a fatigue in the village and in the council. You are probably the 15<sup>th</sup> person this year that we have had to deal with, whether it is media, TV, radio’s. We get a trickle of students as well.”*

– Gillian (community #6)

The media attention has created a fatigue of dealing with outsiders asking for information. Stanley also referred to this when he said that “So many are almost losing faith” (p. 47). People are especially wary of participating in any media programmes, as the media has been seen to frame the situation and to have a dominant effect on the housing prices.

Although the media agencies have been dominant, also scientists have interacted with local inhabitants, which is discussed in the next section.

### 6.3 Interacting with science

Inhabitants have noticed the significant uncertainty in sea level rise projections. Interviewees mentioned the uncertainty of how the sea level will rise, how quick it will go, what effect it will have on the defences of Fairbourne, whether the sea level rise models that were used are the right ones, and whether the science behind the sea level rise projection is to be accepted. Several interviewees mentioned that the science is based on the worst-case scenario for sea level rise, which is seen as unfair and incomprehensible:

*“Nothing will change unless sea level rise changes, but that is based on the worst-case least likely scenario.”*

– Samuel (community #3)

*“They used the worst-case scenario. I think it is wrong, I don’t know why they would do that?”*



– Amanda (community #10)

While it is common practice for governmental bodies to be risk averse in their scenarios (representative of Gwynedd Council, personal communication, March 3, 2023), it can be difficult for some inhabitants to understand and accept this.

Additionally to the local community, Dr. Graham Hall, a geological scientists from Wales, has also questioned the sea level rise projections for Fairbourne. He and his wife Margaret Hall explained via email that he had done a PhD project about the Mawddach estuary and therefore had question marks about “such drastic action” for Fairbourne (Margaret Hall, personal communication, February 2, 2023; Graham Hall, personal communication, March 14, 2023). He has therefore conducted his own research about the likelihood of flooding in Fairbourne. His report has concluded that Fairbourne is not as much at risk as has been depicted in SMP2, as that policy used a worst-case scenario model for sea level rise. He has proposed a sea defence scheme to protect the village until 2065 and beyond. Taking on an adaptative perspective, Hall has suggested several additions to Fairbourne’s current sea defences, including an additional embankment, drainage, and possibly placing an artificial reef in front of the shingle bank. Additionally, Hall has argued that some of the figures and models used by Fairbourne Moving Forward are deceptive and untrue (G. Hall, 2021). An additional report from 2022 argues for an adaptive engineering approach to defend the village (G. Hall, 2022). He presented his first report to the ACC in 2021. His conclusions have been adopted by several community members, for example by Samuel (community #3) and Stanley (community #12).

Samuel has known Dr. Hall from before 2014 and has been involved with making the research report of Dr. Hall into a more readable summary for the local community:

*“I have worked with Dr. Graham Hall, who is a pure academic. I have put his work into a summary, so his work was more accessible.”*

– Samuel (community #3)

Stanley has taken up the adaptation ideas from Dr. Hall and is trying to get funding to implement the adaptive structures independently:

*“I have been involved with Dr. Hall, through the ACC and the project board. His thesis is brilliant. The practically is marvellous. It would work. (...) I’ve been trying to get 50,000 pounds from Gwynedd Council to make tetra pods, so we could make a reef of tetra pods to take the power out the storm waves to protect the beach.”*

– Stanley (community #12)

Hall’s reports have thus provided Fairbourne’s inhabitants with additional ammunition to resist the decision-making of Fairbourne Moving Forward.

Margaret Hall has published an article in the online newspaper Nation Cymru in January (M. Hall, 2023) to raise awareness for the research reports of her husband, “hoping to change the “climate refugee” narrative that the press has been pushing until now” (Margaret Hall, personal communication, February 2, 2023). Scientist have thus used the media to influence the climate mobility regime. According to Dr. Hall, his work has created tension between him and Gwynedd Council. Margaret Hall stated in her email that they have decided to take a step back from the campaign as the science can speak for itself (Margaret Hall, personal communication, February 2, 2023).

Now that the Fairbourne Moving Forward project has stated there are no plans to decommission the village, the climate mobility regime might be governed by solely science. Stanley has presumed that the

removal of the date for decommissioning by Fairbourne Moving Forward has made sea level rise itself the determining factor for the fate of the village:

*"We are now in the position where we should have been in the beginning, where the life of the village is purely in the hands of sea level rise. If it rises slowly, we have a long lifetime. If it rises very quickly, we have a short lifetime. Instead of this date hanging above people's heads."*

– Stanley (community #12)

## 6.4 Why Fairbourne?

Most people in Fairbourne have resisted the reasoning that Fairbourne needs to be relocated because of flood risk. Inhabitants ask themselves and the local authorities during public meetings: why Fairbourne? Interviewees did not understand why Fairbourne was 'picked'. While some interviewees, such as Susan (community #19), acknowledged that Fairbourne is quite unique as it has multiple flooding risks, coming from the estuary, the hills and the sea, most interviewees argued that Fairbourne should not be the village to go first. The majority of interviewees mentioned that other coastal villages on the west coast of Wales have flooded worse and more often than Fairbourne:

*"Obviously, when we first got the floods, Barmouth flooded a lot worse than we were. They are fine, so it doesn't make sense."*

– Lisa (community #13)

*"Everywhere else has been flooded and we haven't. Why have they picked on Fairbourne?"*

– Fred & Bridget (community #11)

*"Barmouth floods and Tywyn does. We don't get it. Somehow, they picked on Fairbourne and the council did not try to stop it."*

– Peter & Caroline (community #9)

*"We are not stupid. We know that probably someday most of the coast will be flooding. But it's not just the coast. It's inland as well. The other side of the estuary has always flooded, but we don't."*

– Constance (community #5)

The incomprehension of appointing such a high flood risk to Fairbourne while there has only been minor flooding compared to other coastal villages nearby, has led many people to search for alternative explanations. The climate mobility regime argued that Fairbourne would need to be "decommissioned" because it is unique in terms of flood risk: it is low-lying land, with risk for flooding coming from the sea, the estuary and the mountains (see Chapter 4.4.1). However, as inhabitants have not experienced any severe flooding from either of those sources, it appears difficult for them to accept flood risk as the reason why the climate mobility regime aims to relocate Fairbourne's community. Several inhabitants have therefore come up with alternative explanations for Fairbourne's fate.

First, some said that Fairbourne is being picked on because the regime thinks it is not worth much compared to other villages, making Fairbourne the perfect test case where they could get away with such a policy:

*"Fairbourne is seen as an easy target, because it has cheap housing. Whereas more prestigious places, like Barmouth, which is seen as having more value, or Aberystwyth."*

– Scott (community #19)

Interviewees said that Fairbourne is being used as a guinea pig:

*“The flood warden scheme was set up because Fairbourne is effectively a guinea pig. There are another 50 places on the Welsh coastline. They were using us to see how it would work.”*

– Michael (community #20)

A second explanation often given by interviewees is that Fairbourne was picked out because relatively many people from England, speaking only English, live there, while the majority of people in Gwynedd county is Welsh-speaking. Plaid Cymru, the Welsh nationalist political party, has a majority in Gwynedd county (Jones, 2022). Also, Gwynedd Council is focused on speaking and writing Welsh. Some Fairbourne inhabitants therefore feel that they might be discriminated against because they are seen as a primarily English village. People mentioned how people in Fairbourne and of the village itself is mostly seen as being English, while North Wales and Gwynedd Council are seen as much more Welsh, in identity and in language use both:

*“Fairbourne has been singled out for some reason. Some say it has been singled out because we are English. It has been very racist like that. It causes a lot of bad feelings. Everybody lives side by side here quite happily. I don’t see why there should be a problem. Also it is the only village with an English name. It is interesting but it is nothing you can base facts on.”*

– Harold (community #7)

*“It has been said that because Fairbourne is an English village. The county council is focused on Welsh, they might think it doesn’t matter.”*

– Amanda (community #10)

*“If you look on the North Wales map, we are in Plaid Cymru country. This is the only village with an English name. That is not acceptable for them. We are never going to prove it, so we can’t say it.”*

– Stanley (community #12)

*“They call Fairbourne ‘little Birmingham’. Gwynedd Council doesn’t like English people.”*

– Tony (community #16)

These feelings have mostly been attributed to Gwynedd Council, as the council is known for its Welsh identity. Fairbourne inhabitants have felt unfairly selected and search for explanations, leading to low trust in the process and in Gwynedd Council.

## 6.5 Shaping the climate mobility regime

Next to interacting with the media and science, the community has tried to shape the decision-making of the climate mobility regime by being involved in community actions. On the foreground is a small group of actively involved inhabitants, who are all members of the Arthog Community Council (ACC). The Arthog Community Council is the community council for Arthog, Friog and Fairbourne and has around 11 members. ACC members are generally retired people above 60 years old. I have spoken with four ACC members. Constance joined the community council to stay updated on new developments:

*“I joined the Arthog Community Council just before lockdown. I joined because I wanted to know what was going on. I just sat and listened to things.”*

– Constance (community #5)

The Fairbourne community is represented by four local community members on the Fairbourne Moving Forward Project Board, two of which are also in the ACC. The first is Gillian (community #6), whose main focus has been on the Health Impact Assessment (HIA) and has worked with the Fairbourne Moving Forward Project Board on choosing a suitable company to exert the HIA and on giving feedback on the draft HIA report. The second ACC representative is Stanley, who is chair on the Project Board. Stanley is a well-known actively engaged person in Fairbourne and many inhabitants have referred me to him when I asked about the future of Fairbourne.

Both Gillian and Stanley have been able to influence the conversations by being involved in the Project Board. Gillian tells me how she has steered the actions of Fairbourne Moving Forward:

*"Recently, I twisted their arm. I feel quite pleased about this really. We had a meeting with Welsh Government where it was being suggested by Welsh Government etcetera that the word 'decommissioning' must have been a misunderstanding. I said: no, there is two documents, the Fairbourne Masterplan and Fairbourne Lessons Learned, which was done by a subcontract consultant. I said: is there no way to talk about softening the language and removing the date? Because all we are looking for is equity and parity, being the same as other communities. That went away. Then the HIA came along. So we produced a newsletter to introduce the HIA and we managed to get Huw Williams, the head of the commercial arch of Gwynedd Council, who had most to do with this, to make the statement that there is no plans to decommission Fairbourne. There were a lot of behind the scene meetings as to how to word that. It was worded that based on the present science, we are having to look at things differently."*

– Gillian (community #6)

By asking critical questions and making suggestions, she was able to influence the steps taken by the Fairbourne Project Board. Also Stanley has had influence by being on the Project Board:

*"I joined 2 years ago as chair. I said, if I don't get any achievements in the first year, I'm off. We have to get achievements. The first year, I got the ditches cleaned properly. Get small results. (...) One of the major results was the withdrawal of the 2054. Major achievement, mostly done by ACC. It is a group action."*

– Stanley (community #12)

Finally, Alison is the fourth ACC member I have interviewed. She is actively involved in the ACC and her partner is also on the Fairbourne Moving Forward Project Board, although not on the ACC.

This small active group is most updated about the recent developments regarding Fairbourne's future. The ACC members that I interviewed were the only interviewees who initiated discussion of the HIA and who discussed the recent developments regarding the removal of a specific date for Fairbourne, thus demonstrating their active involvement. The ACC aims to go further by requesting an apology from the Welsh Government for all the blight that has been brought onto the village. Stanley said he expects the villagers to sue the council once it is official:

*"So now were are trying to get Gwynedd Council to put it into print. They know, that if they do that, they open themselves up to litigation from the villagers. Because of what they have done, and the house prices dropping down, and now saying were are not decommissioning the village anymore by 2054, if that goes into print, the village can ask for recompense. That is something to look forward to. They have backtracked. The impact of what they said, caused mental illness, strain. For the impact that that has had on the village, the villagers could try to sue the council."*

– Stanley (community #12)

Currently, no other groups are trying to influence or resist the policy from Fairbourne Moving Forward. There used to be a group called Fairbourne Facing Change, which was set up in 2014 as a response against the climate mobility regime. According to Gillian (community #6) and Jean (community #4), the group tried to bring government to court, but the risk became too high in terms of liability, meaning that the villagers might have to pay too much if they lost the case. Fairbourne Facing Change has therefore ceased to exist.

There are two other community-based initiatives that relate to the climate mobility regime but do not actively resist it. Rather, the first group is part of the regime as it was set up in accordance with regime actors as a way to govern the climate risk. This group is the Fairbourne Community Flood Plan, which was set up under the Fairbourne Moving Forward project. Inhabitants have volunteered as flood wardens and would be responsible for evacuating people in their respective areas of the village in case of a flood. They also make sure that people are aware of the option to register for a flood warning from Natural Resources Wales. The second community initiative, the Fairbourne Amenities Trust, was organised outside of the climate mobility regime as an alternative way of governing the maintenance of the public facilities. This committee was set up to save the two public toilet facilities in Fairbourne. Gwynedd Council would not have been able to keep the facilities open due to budget constraints, so the trust was set up to take over this responsibility. Currently, the toilets are partly funded by the Arthog Community Council and rely on donations from users. They are cleaned by volunteers from the village. Peter and Caroline (community #9) clean the toilet facilities at the sea front every week.

Besides the small active group around the ACC, many interviewees mentioned that they are not involved. Most had gone to the first few meetings in the village hall after the news had just came out in 2014, but have not been involved in any committees or meetings and have not participated in the Health Impact Assessment in November 2022. Alison, who is actively involved in the ACC, has noticed a reduction in involvement over time:

*“There was a meeting in the village hall in 2019, to vent frustrations. We did have a full house then. But if we would organise something again now, I don’t think we would get a good turnout.”*

– Alison (community #1)

There thus appears to be a hard core of people that are actively involved in influencing the climate mobility regime, while the majority of the village is on the sideline and sometimes receives updates. Alison has also noticed this division in the community:

*“I have to think about it every day. (...) I would say, the majority of people in Fairbourne, don’t. You could say that they are burying their heads in the sand. Or, they are just choosing to get on with the rest of their lives and not worry about it.”*

– Alison (community #1)

This came up at the majority of interviews: people would rather not worry about it too much and continue with daily life. Interviewees that have not involved themselves in any community action feel that they are not the right people to get involved or that their efforts would not make a difference:

*“From what I see, it is far beyond our control whatever happens. There is not going to be anything I can do. What could I do to influence any of them?”*

– Mark (community #15)

They do support the work of the Arthog Community Council, but do not feel that they should join:

*"I didn't feel that I was needed in anyway. You get a newsletter and you see what they are doing. I am not an expert in this field, so I didn't feel I could do a lot. I don't let it involve me too much. I think there is more clever people than me that can deal with it better than I can."*

– Gavin (community #22)

Overall, Fairbourne's inhabitants do not seem to be involved in classic acts of resistance, like protesting. A few people did mention what they would do if it would be necessary:

*"If they do try and decommission the village, I would be one of those people standing on the level-crossing and blocking the diggers. I will always back the village up."*

– Michael (community #20)

*"People are determined to stand their ground. When are you going to move? People say: "When I am sat there in my chair and the sea is around my knees." That attitude is nice."*

– Stanley (community #12)

However, as the move is still hypothetical as no one is forced to move and there is no plan yet, acts of resistance are more subtle and focused on the steering and adapting of the plans made by the climate mobility regime.

### 6.5.1 Involvement and age

There appears to be a relation between age and involvement in community action. Older people who are retired seem to be more involved, in either the ACC, the Fairbourne Amenities Trust or the Flood Warden scheme, or by going to community consultation meetings. Interviewees mentioned this seems to be primarily based on how much time people have available to them:

*"No offense meant, but there are a lot of people in the village who are retired people who have a lot more time. The people that were involved, were very committed. My own involvement would not be as much."*

– Michael, middle-aged person (community #20)

Timing seems to be an important factor that has influenced whether inhabitants participate in community meetings. If the meetings are planned during regular work hours, employed people would not be able to join:

*"A lot of it depends on when these meetings happen, if it was during working time, I would not have been able to go."*

– Graham, middle-aged person (community #8)

Generally, older people are homeowners, while younger people (40 years and below) that I have spoken rent their properties (see Chapter 5.2.2). This could influence their interest in shaping the situation and thus their involvement. Mark, who rents his home, said he thinks home ownership influences people's positions:

*"I imagine my view is very different to that of a homeowner, who just recently moved here. Those are the people you tend to see on the tellie. I feel I don't really qualify for that."*

– Mark (community #15)

## 6.6 Conclusion

This chapter has shown how Fairbourne's community has navigated, interacted with, shaped and resisted the climate mobility regime. Living in Fairbourne in the last decade, inhabitants have experienced the climate mobility regime of Fairbourne to be highly uncertain. Inhabitants have been navigating this regime by adopting strategies to influence their mobilities. For example, two interviews showed how inhabitants were saving money to increase their ability to move in case it would be necessary. Also, some inhabitants did actively consider the land-level of their homes because they were reluctant to invest. Similarly, one renter said she would not go from renting to buying due to the uncertainty. Additionally, some inhabitants navigate the uncertainty by arguing that the timeline will not affect them, thereby allowing themselves to stay in the village without too much worries.

They have also navigated the climate mobility regime by interacting with media and science, both to try and influence the climate mobility regime in order to save Fairbourne. Inhabitants have sometimes used the media as a channel through which to highlight the low trust in the decision-making of Gwynedd Council. However, as media agencies have often framed the situation to their own liking, most inhabitants have not approved of the stories published about the community and their village and have refrained from participating in media interviews. The report from independent researcher Graham Hall has been used to inhabitants support their case of protecting Fairbourne. Graham and Margaret Hall have also interacted with the media to raise awareness for the report, illustrating how science has also used the media as communication channel.

In terms of community resistance, a small active group, mainly consisting of older persons who are involved within the Arthog Community Council, has resisted and shaped the climate mobility regime by attending meetings, asking questions, referring to earlier discussions and by working together with the Fairbourne Moving Forward Project Board. This central group has been representing the Fairbourne community and although most inhabitants support them, few other inhabitants have been actively participating in community actions. Generally, resistance against the Fairbourne climate mobility regime is done through the official channels and committees instead of adopting more activist approaches such as protesting.

Finally, the uncertainty behind the decision to stop defending Fairbourne seems to have led some inhabitants to look for alternative explanations why Fairbourne was 'chosen' to be decommissioned, thereby illustrating the lack of trust that most inhabitants have in the decision-making process at Gwynedd Council.

## 7. Discussion

The above results chapters have shown the different facets of the climate mobility regime for Fairbourne, how it has influenced the mobilities of its inhabitants and how inhabitants have interacted with the climate mobility regime. This discussion chapter aims to bring the results together into several key insights about Fairbourne's climate mobility regime, its effect on inhabitants and how inhabitants have navigated this regime. Next, the chapter connects the results of this case study to broader literature in a reflection on the contributions of the results, divided into three subsections. Third, limitations of the research outcomes are addressed, thereby suggesting topics for further research. Finally, recommendations for policy-makers are made based on this case study of Fairbourne.

### 7.1 Key findings

The climate mobility regime of Fairbourne is multi-faceted and complex. It encompasses policies that leave significant gaps of responsibility and that are based on uncertain sea level rise projections. This has left room for media agencies and independent scientists to interact with the information and consequently influence the overall outcome of the climate mobility regime. This web of actors influencing the future has made it difficult for local inhabitants to understand the prospects for their village, leading to low trust in the process. As local governmental bodies have not presented a clear plan for adaptation or relocation with assigned responsibilities, this uncertain future has led to negative sentiments of Fairbourne's inhabitants towards the local council. Additionally, this complexity and uncertainty in the climate mobility regime have made it difficult to communicate the prospects of Fairbourne to inhabitants. Inhabitants generally do not accept the knowledge and authority of Gwynedd Council and the authors of Shoreline Management Plan 2 to decide on the future of their village. The regime is much contested, either by people doubting the sea level rise projections and the use of the worst-case scenario that had led to the date of 2054, as well as by people questioning the power the council would have to evict or relocate them. Arnall and Hilson (2023) have similarly shown how the local community of Fairbourne can contest the dominant sea level rise imaginary that has been constituted by media and governmental actors. They have thereby argued that the future of Fairbourne is not fixed, but rather presents a struggle for representation between inhabitants, governmental bodies and media. This thesis confirms that last statement, as inhabitants have employed strategies of navigation and resistance to shape the climate mobility regime:

First, many inhabitants have joined the informational meetings, organised by climate mobility regime actors, to gain knowledge about their situation and have used these meetings to questions and share their concerns with the governing bodies. Additionally, a selection of inhabitants has been interacting with the climate mobility regime by becoming engaged in the Fairbourne Moving Forward Project Board, the official committee that governs the future for Fairbourne, and in the Arthog Community Council. Joining these groups has enabled inhabitants to stay informed and, most importantly, to have the opportunity to directly engage with several climate mobility regime actors. Via these groups, inhabitants have been engaged in the decision-making processes on the next steps for Fairbourne and have had the opportunities to share their views and opinions. They have also shown their resistance and reluctance to accept a 'decommissioned' Fairbourne. By engaging in these actions of perseverance and resistance from the local community, inhabitants have signalled to the climate mobility regime that they need to include the local community more and have been able to reshape the climate mobility regime.

Second, inhabitants have resisted and shaped the dominant story of 'decommissioning' by participating in media interviews to gain attention for their own perspectives on the situations, thereby aiming to find support for resistance in the public and the government. However, as the images created and promoted by the media have proven to have a significant effect on the house values and the overall image of the



village, most inhabitants have refrained from interacting with media agencies. Both the participation and the refusal to participate are ways for inhabitants to exert agency over their situation and resist certain ideas that are spread about their village within the climate mobility regime by the media.

Finally, Fairbourne's inhabitants have navigated the regime by aiming to stay in place. The majority of inhabitants has claimed to stay in the village, even if the relocation plan would become definite, thus actively going against the planned relocation from the climate mobility regime. By sharing these ideas about staying immobile, people use their agency over their mobilities as a political act of resistance to counter the dominant relocation plans (Farbotko, 2022). By engaging in these counter-immobilities (Farbotko, 2022) and sharing them in the above-mentioned arenas of decision-making and with media agencies, inhabitants exert agency by becoming voluntary immobile as an act of resistance, instead of being passive victims to the conditions that shape their immobilities within the climate mobility regime.

Fairbourne's community has thus navigated the climate mobility regime by finding opportunities for influencing and reshaping the governance of the future via the official decision-making routes, but also by sharing their stories with media agencies, whilst also resisting media interference, thereby continuously sharing their aims of immobility. However, as the climate mobility regime has started the process of adaptation for Fairbourne from a predetermined policy of 'managed realignment', most power in decision-making still lies with the governmental climate mobility actors, most importantly Gwynedd Council. They are facilitating the progress and have invited the local community to the table, but based on the goal of future relocation. While inhabitants have been able to exert agency over their climate mobilities, the power and reach of their agency is limited by the power relations of the climate mobility regime.

The climate mobility regime appears to have become more flexible and open to input from the local community over time. With the development of new sea level rise models and projections, new data and ideas generated by scientists such as Dr. Hall, the employment of new people in the core of Fairbourne Moving Forward, especially the retirement of Huw Williams and the involvement of the new Project Manager Llion Pritchard, the overall mindset underlying the climate mobility regime seems to be shifting towards a more flexible approach. These recent developments appear to have nudged the climate mobility regime in a more inclusive direction in which impacts of the policy-decisions on local inhabitants are recognised, for example in the Health Impact Assessment. In the end, it appears that primarily the use of uncertain sea level rise projections that had determined the date for 'decommissioning' received the most resistance from the local community, also via the media, and scientists. In the climate mobility regime, there was already a built-in flexibility that the outcome would be able to change if new models and science would change the sea level rise projections for Fairbourne, but this was hidden behind the definite wording to 'decommission' to the village, which was affirmed by the media. It appears that the climate mobility regime actors, nudged and steered in this direction by the active community and independent scientists, have realised the need to acknowledge that the date of 2054 for 'decommissioning' has been based on premature decision-making regarding the future based on uncertain data. Additionally, the governmental bodies have acknowledged the effect that the climate mobility regime has had on the daily lives of the inhabitants due to the excessive media attention, financial repercussions in house values and the worry it has brought to people, through conducting the Health Impact Assessment research.

## 7.2 Contribution of the findings

### 7.2.1 Contributions to climate immobilities

This thesis has made two relevant contributions to the debate on climate immobilities. First on the spectrum between voluntary and involuntary immobilities, and second on the role of atypical climate regime actors and their influence on the climate mobilities of affected populations.

First, the climate mobility regime has had a differentiated effect on community members, as their financial resources have influenced whether inhabitants could permit to lose value on their home. The climate mobility regime has thereby relied on the differentiated levels of resilience and adaptability of inhabitants, which has created uneven mobilities amongst inhabitants. The uneven mobilities amongst the Fairbourne community have shaped their voluntary and involuntary immobilities. Homeowners that aspire to stay would generally not be able to move due to the low house values as a result of the climate mobility regime. Even though their aspirations comply with voluntary immobilities, as most want to stay, their motilities would limit them even if their aspirations would change to wanting to move out of Fairbourne in the future. Some have enhanced their agency by saving money for a potential move, thereby relying on their own ability to adapt and be resilient. Additionally, inhabitants might have moved if they had been able to do so. It may be difficult for them to imagine moving out if they know they cannot. Inhabitant's aspirations and perceived potential for movement are thus strongly linked to their motility (Kaufmann et al., 2004; Wiegel et al., 2019).

It is difficult to establish which exact factors drive people in their choices. While the financial limitations laid down by the climate mobility regime have affected inhabitants, Zickgraf (2019) argued that social and, most importantly, political factors are essential in influencing immobility situations. In Fairbourne's case, the financial conditions have been a result of the political situation and have affected the social differences between inhabitants on their motilities. The financial, social and political factors are thus interwoven and all relate to each other. This has increased the complexity in understanding whether inhabitants are voluntary or involuntary immobile. Adding to that, inhabitants that aspire to move out of Fairbourne eventually have been more flexible in their living arrangements, and are thus only voluntary immobile for the moment, showing how mobility aspirations are not permanent but can change over time. Fairbourne's inhabitants are defying the dichotomy between voluntary and involuntary immobilities, thereby highlighting the necessity for policy-makers in the climate mobility regime to include strategies on how to approach voluntary immobile communities in policies of relocation (Farbotko, 2018).

Second, in line with the call from Boas et al. (2022) to research the role of "atypical governing actors such as journalists or filmmakers in inducing a particular circulation of ideas that can impede on people's actual mobilities in climate change affected areas" (p. 3375), this thesis has seen how media agencies and documentary makers have played a significant role in limiting the mobilities of the population of Fairbourne. The political conditions in Fairbourne allowed the media to use dramatizing and definite tones in depicting the future of the village. The negative media attention led to real consequences for inhabitants as the house values of the village dropped drastically, thereby limiting homeowners to sell their properties and move away. The significant impact that the media attention has had on Fairbourne was also unexpected by governmental bodies and therefore highlights the need for the inclusion of a media strategy in similar cases of uncertainty, as is also argued by (Buser, 2020).

### 7.2.2 Climate mobilities in the Global South and Global North

As research on climate mobilities has primarily been done in countries in the Global South (Piguet et al., 2018), the focus on "climate refugees" from Fairbourne might seem like a welcome balancing act, finally giving attention to another type of refugee than the "archetypal victim of climate change as a poor peasant from the South" (Piguet et al., 2018, p. 359). However, the "climate refugees" label has also

victimises the inhabitants of Fairbourne as mere subjects undergoing change. In reality, Fairbourne's inhabitants are active agents that have interacted with the climate mobility regime, resisted it and shaped it in several ways. The term "climate refugees" for the dominant images of people from the Global South has been criticised and refuted by multiple scholars (Bettini, 2013; Bettini et al., 2017), and the case of Fairbourne subscribes to that sentiment as Fairbourne's inhabitants cannot be regarded mere "climate refugees".

Additionally, there is a notable absence of any securitisation frame when discussing Fairbourne's case of "climate refugees" compared to similar cases in the Global South. While news articles and documentaries about Fairbourne have often focused on the limited timeline for the village and the lack of compensation for inhabitants, there have been no overdramatising headlines using alarmist tones how the Global North could expect more migrants due to climate change effects hitting the United Kingdom's coast, while this securitisation frame for similar coastal communities in the Global South has been dominant in politics and media (Bettini et al., 2017; Piguet et al., 2018; Wiegel et al., 2019). Instead, media articles about Fairbourne have primarily focused on the resistance of the local community, suggesting that the so-called "climate refugees" are not planning on going anywhere (Gerretsen, 2022; Nobes, 2023; Wall, 2019). There seems to be a general acceptance that people would either move within national borders on their own account, or, if an relocation plan might be made, that the community would be relocated relatively locally.

Yet, it is important to note that the case of Fairbourne should not be interpreted to be representative for all flood and coastal management in the Global North. Flood management in the United Kingdom has specific strategies. The United Kingdom is known for embedding resilience thinking in its politics (Boas & Rothe, 2016), thereby influencing its approach towards flood management. A particularly illustrative example of this is the case of Churchtown, Lancashire, North West England (Newground, 2022). After their village had been flooded repeatedly in 2015 and 2016, local community members of Churchtown organised themselves into a Flood Action Group to raise money to build a flood defence on their own initiative. In the end, they received sufficient funding and an embankment was completed in 2019, which is maintained by the landowners themselves. A community member in Fairbourne highlighted the case study of Churchtown as a good example of how the local community had organised their own flood management systems, arguing that a similar approach might also fit Fairbourne. That this case study, whereby measures to adapt to flooding were implemented by local people themselves, is used as key example, shows how flood management in the United Kingdom relies on the resilience and adaptation on the community and even individual level and how community members also seem to partly accept this responsibility. As discussed by Bettini et al. (2017, p. 350), resilience thinking does not expect the state to be responsible for protecting their population. In the United Kingdom, where coastal management is conducted via permissive powers (see Chapter 4.5), the risk lies with individuals for many cases of flood and coastal defence.

Comparing the UK flood management approach with other cases of managed realignment in the Global North, significant differences can be found. For example, a case of managed realignment can be found in Alaska, United States of America, where native Alaskan communities have been engaged in community-led initiatives to establish solutions and make their own relocation planning (Bronen, 2018 as cited in Farbotko, Dun, Thornton, McNamara, & McMichael, 2020). Also in the European Union, flood management in all member states has to include participation in the development phase of the flood management plans due to the Floods Directive (European Parliament & Council of the European Union, 2007). Finally, the Netherlands is well-known for its 'fight against the water' as it has been adapting its low-lying landscape to flooding from rivers and the sea for centuries (Mostert, 2020). The Dutch 'Room for the River' project, implemented between 2006 and 2015, aimed to bring down the water levels in the

rivers by creating more space for the rivers to flow, for example by relocating dikes (Roth et al., 2021). Public participation was included in the design of the project. Although the approach of the Room for the River project has also seen resistance from the public and has been criticised for the limited room for input from the public in decision-making (Roth et al., 2021), it differed from the Fairbourne case on a major aspect: inhabitants that would be disadvantaged, either by having to move immediately or by their house values decreasing due to changes in flood protection received financial compensation from the national government (Minister van Verkeer en Waterstaat, 2007).

### **7.2.3 Community participation and responsibility in the climate mobility regime**

The decision-making process on the future of Fairbourne did not include community participation. The design of Shoreline Management Plan 2 (Earlie et al., 2012) was done by experts in the field, governmental actors and was based on sea level rise modelling, but did not include any community-based consultations. Only after the decision for 'managed realignment' had been made in the Shoreline Management Plan 2, and after this had been adopted into the Preliminary Coastal Adaptation Masterplan by the local governmental bodies (Fairbourne Moving Forward, 2018), the community was involved in the process, but mostly to inform them. From the outset of the policy, it has been assumed necessary to 'decommission' Fairbourne. While the Shoreline Management Plan tried to start the difficult conversation about the future of coastal management in the UK, they did not include the voices of the affected populations. Only when the decision about Fairbourne's future was made, and resistance from the local community of Fairbourne followed, then the local community received a place at the table.

Analysing the case of Fairbourne through questions of who is able to move and under what conditions (Sheller, 2018), this case has shed light on the inequalities in the climate mobility regime. Comparing the case of Fairbourne with the examples of community-led relocation in Alaska and of community-led adaptation in Churchtown, England given in the previous section, it would have benefitted the situation in Fairbourne if the community would have been involved in the decision-making process from the start. As the climate mobility regime in Fairbourne has not taken on full responsibility for the fate and protection of its inhabitants, the responsibility for adaptation is assigned to the inhabitants. Therefore, it would be equitable to then give more agency to the inhabitants to choose and shape their climate mobilities. When inhabitants are the ones expected to adapt, then it would be fair to give them the choice in how they would want to adapt. Communities should then be able to choose whether they would want to move, or if they would rather adapt by implementing adaptation measures while staying in place, such as flood proof homes. In other words, when governmental bodies have decided to relocate a community without allowing participation of the community, then it would be fair for the governmental level to take on full responsibility for the relocation plan, including compensation, while paying attention to inequalities and differentiated living conditions. However, in the case of Fairbourne, where the governmental level has decided on relocation and 'decommissioning' without engaging in any participation processes with the local community, the governmental level expects community members to deal with the consequences of this top-down decision themselves. This contradiction shows the injustice of the climate mobility regime of Fairbourne.

## **7.3 Limitations and suggestions for further research**

This thesis focused on the interactivity between the local climate mobility regime and how the community has navigated this. This has resulted in a limited focus on the factors and aspects that influence a community to stay in place, especially on less 'material' aspects, such as place attachment and sense of place. In the interviews, these aspects came up indirectly when I asked inhabitants about their experience of living in Fairbourne. However, as place attachment and sense of place were not included in the research design, the interviews were not analysed on place attachment, resulting in a gap in the

results on these factors. The emotional ties people have to Fairbourne as a place and how it is linked with their identity would therefore be a relevant topic to explore in further research.

This case study has focused specifically on Fairbourne as a case of ‘migration as adaptation’ in the neoliberal context of the United Kingdom. While the United Kingdom’s context of resilience and responsibility at the level of citizens might not be apply directly to other cases of flood management globally, the underlying discourse of ‘migration as adaption’ is found in many cases of adaptation to climate risks, especially in cases of forced relocation designed by governments (Garimella, 2022; Rey-Valette et al., 2019). This case adds to the understanding of how policy decisions on relocation in the context of climate change impact local inhabitants, especially in cases where there is no participation of the affected community included. Especially in this relatively new territory of climate adaptation and migration, lessons can be learned on how to manage uncertain governance regimes and how local inhabitants might respond and what they might expect from government. Also, in the context of the United Kingdom, “it is likely that this scenario will be repeated elsewhere in the UK as the impacts of climate change become more evident and embedded into planning and decision-making” (Buser, 2020, p. 142).

Finally, notice should be taken that the policy making process in Fairbourne is ongoing and dynamic, meaning that the conditions that have influenced this research are subject to changes with time. This research report should thus be read as a snapshot of the specific conditions that influenced the regime and inhabitants in and around March 2023.

## **7.4 Recommendations for policy-makers**

Based on the case study on the policies, their underlying discourses, and the political conditions of flood management that have shaped the case of Fairbourne, recommendations can be made to policy-makers in the United Kingdom and in the climate mobility regime of Fairbourne specifically.

First, I recommended policy-makers on flood management in the United Kingdom to create new policy or guidelines to overcome the responsibility gap regarding future adaptation measures under climate change. It is essential for governmental actors in the United Kingdom to research which legal responsibilities apply to citizens and governments when a community chooses to remain in a coastal area not protected by coastal defence systems. This would be important for the local community to know whether they would not be breaching any legal regulations by remaining in place, and whether they would be allowed to build adaptation structures necessary to remain safely. Additionally, it would benefit governmental actors to understand if they could be held responsible for any damages to a village that has chosen to live outside coastal protection. If required from either the community or governmental level, the design of a new regulations would be necessary to ensure the legality of a situation of voluntary immobility. If Fairbourne’s population remains determined to stay in their village, even with the increased climate change risks, it is recommended for governmental actors to create guidelines on how to approach such a situation. Looking at examples globally, the Government of Fiji has drafted relocation guidelines that includes steps for when a community has decided not to move under a relocation policy (Farbotko, 2018; Farbotko et al., 2020). An approach based on human rights, as suggested by both Farbotko (2018) and Naser et al. (2023) would be an essential addition to such guidelines, to maintain dignity and human rights in case of forced relocation.

Second, for policy-makers in Fairbourne’s climate mobility regime in particular, I recommend that in order to sustain the more open and positive direction of the climate mobility regime, it is essential for the governmental bodies to recognise and acknowledge the lack of community engagement in the decision-making process on the future of Fairbourne. As the Arthog Community Council is trying to steer towards

a public apology already, this might be a good way to regain the trust and thereby participation of the local community in Fairbourne.

Additionally, it is necessary to recognize that the climate mobility regime consists out of other actors than only policy-makers and to search for an approach in which media can be used as an asset rather than a disturbance. This is in line with Buser's (2020) call for a robust communication plan that involves the media. Clear communication directly from the decision-makers will be essential to counter the many messages that are spread by media. A similar recommendation is done in the Health Impact Assessment that was conducted in 2022 (Savills & Cyngor Gwynedd, 2023), which also highlighted the need for more information from Gwynedd Council regarding the apparent positive shift that there are no plans for decommissioning. Additionally, and most importantly, I recommend that community-led initiatives should be given a significant and powerful place within the climate mobility regime to increase the agency of the local community over their own climate mobilities and thereby restore the inequalities and injustice that is currently underlying the climate mobility regime of Fairbourne.

## 8. Conclusion

This thesis has explored how the climate mobility regime of Fairbourne, Wales, has shaped the immobilities of Fairbourne inhabitants and whether and how the inhabitants challenged and navigated this climate mobility regime in order to exert agency over their climate mobilities. Through a climate mobilities lens, the interactivity of the climate mobility regime and the potential and actual movement of inhabitants was investigated. The research was guided by several sub research questions, together leading to the answer to the main question. The sub research questions are answered first, followed by the answer to the main research question.

**First, what is the climate mobility regime of Fairbourne, Wales, and how has it shaped the immobilities of its inhabitants?**

The climate mobility regime of Fairbourne emerged as a result of the publication of Shoreline Management Plan 2, which indicated that Fairbourne would fall under a 'managed realignment' policy in the near future, thereby necessitating relocation of the properties and inhabitants. Consequently, local government bodies validated this policy advice by designing a masterplan for Fairbourne, including a timeline showing that Fairbourne would be 'decommissioned' by 2054. The timeline was based on uncertain sea level rise projections and was designed to be flexible to adapt to future data on sea level rise. However, a lack of clear communication to the local community, led to a significant influence of media reporting in the effect of the climate mobility regime. Specifically the BBC Week In Week Out programme was the first to inform the majority of inhabitants about the fate of their village, thereby leaving out any nuance and flexibility of the timeline and projecting a definite and pessimistic view of the village. As a result, market mechanisms were influenced by the uncertainty and limited view of the village and house values decreased significantly. The climate mobility regime of Fairbourne thus consists of a collective of different actors, policies and ideas, that were shared and reshaped by different actors. Governmental actors initiated the ideas of relocation as 'migration as adaptation', but the ideas shared by media and scientists, which were often contradicting the governmental actors' ideas, significantly influenced the overall effect of the climate mobility regime on the inhabitants. The governmental bodies within the climate mobility regime have adopted a facilitating role, thereby, unconsciously, giving power to media agencies and the housing market to shape the mobilities of inhabitants.

Governmental actors within the climate mobility regime aimed to relocate the village and inhabitants in the long-term, but due to the influence of media attention and market mechanisms, people's abilities to move have currently been significantly reduced. The significantly low property values in the area, due to the limited timeline given to Fairbourne by the climate mobility regime, have limited homeowners, the majority of Fairbourne's inhabitants, in their financial ability to buy a property further inland, thereby limiting their mobilities. Renters' mobilities are less affected by the climate mobility regime, as they have not invested in a property and are thus more mobile. However, due to the lack of mortgage options for properties in Fairbourne, people wanting to go from renting to buying a place in Fairbourne are generally unable to do so.

**Second, how have inhabitants of Fairbourne experienced the effect of the climate mobility regime on their willingness and potential to move?**

Through the negative imaginaries of Fairbourne's future in the media, the intrusiveness of media actors in the village and the difficulties in communication of the prospects for Fairbourne based on uncertain sea level rise projections, the local community of Fairbourne has generally experienced the effect of the climate mobility regime negatively. While inhabitants' potential to move has been significantly reduced due to the effect of the climate mobility regime actors, their willingness to stay has overall become

stronger. The majority of inhabitants have chosen to live in Fairbourne for its specific lifestyle and are therefore resolute on staying in Fairbourne. The uncertainty and short-term vision for their village has created low trust in the process and in the local governmental bodies, especially in Gwynedd Council. As a response to the timeline set for their village, some inhabitants use their resoluteness to stay in their village as a way of resistance against the pressure to move from the climate mobility regime. Due to the uncertainty, some inhabitants do not believe that sea level rise will affect them in their lifetime, which also makes them willing to stay.

**Third, how have inhabitants of Fairbourne navigated and shaped the climate mobility regime in order to seek agency over their own immobilities?**

Inhabitants have navigated the climate mobility regime by adopting counter-immobilities as a way to resist the dominant imaginary of relocation, by stating they will remain immobile, both in the official meetings and via media. Additionally, inhabitants have found ways in which to influence the climate mobility regime by interacting directly with the regime actors. A small active group of inhabitants has been involved in the local community council and in the official steering board on the future of Fairbourne, in order to interact with and influence the climate mobility regime. They have also used independent science reports to counteract the uncertain sea level projections that are at the base of the timeline for Fairbourne. Some inhabitants have interacted with the media to gain attention for the uncertain future of their village, but most have refrained from interacting with the media recently as they can be unreliable.

However, the agency of inhabitants is limited by the political conditions of the climate mobility regime. Inhabitants have joined in the steering board, but this is based on a predetermined policy of managed realignment. Still, the representatives of Gwynedd Council appear to have become more open towards the influence of the local community. This is best illustrated by the statement that there are “no current plans to decommission the village”, whereby the creation of this statement was also shaped and influenced by arguments and critical stances of involved inhabitants in the steering group.

The active community members have thus been able to exert some agency over the future of Fairbourne, by being actively involved in the space of influence they are given by the climate mobility regime. By remaining defiant, inhabitants have been reshaping their own immobilities from possibly being a ‘trapped’ population to an act of counter-mobilities as resistance against the climate mobility regime.

Finally, the above sub research questions lead to the main research question: **How does the climate mobility regime of Fairbourne, Wales, shape the immobilities of Fairbourne inhabitants and how do inhabitants challenge and navigate this climate mobility regime in order to exert agency over their decisions and abilities to stay or leave Fairbourne?**

Fairbourne’s climate mobility has shaped the immobilities of its inhabitants through its policy plans and planning horizons, whilst leaving significant gaps of responsibility, leading to uncertainty and complexity and difficult communication with inhabitants. Due to the responsibility gap, the housing market and media have also had room to shape the immobilities of Fairbourne’s inhabitants. However, Fairbourne’s inhabitants are not trapped, but have responded to the climate mobility regime by becoming voluntary immobile and by interacting with the climate mobility regime via official committees, media and science. Inhabitants have thereby refused the victimising label of “climate refugees” that was imposed on them by media agencies. Instead, they have exerted the agency that they had under the political conditions of Fairbourne’s climate mobility regime.

Fairbourne’s case has shown that climate mobility regimes are complex and uncertain and can be significantly shaped by atypical actors such as media agencies, especially when the traditional governance actors like governmental bodies leave gaps of responsibility. Affected populations can



navigate the climate mobility regime by adopting defiant stances of immobility as a counter-mobility under the relocation plan. However, the agency of inhabitants to determine their own climate mobilities is still shaped by the political conditions of the climate mobility regime.

Referring back to the introduction of this thesis, Fairbourne's so-called "climate refugees" in actuality represent a differentiated group of people with different potential and willingness to move or stay. They navigate the climate mobility regime by finding ways to exert agency over the future of their village. They are not fleeing.

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# Appendices

## Appendix A: Interview guides

### A1: Interview guide for regime actors involved in Fairbourne Moving Forward

#### Introduction

- Introduction by me: MES at WUR, climate mobilities perspective
- Duration of the interview
- Consent form & consent for audio/video recording

#### Background of organisation

1. Can you introduce yourself and your role at [your organisation]?
  - a. How long have you worked at [your organisation]?
2. Have you participated in any interviews before? How did that go?
3. Why have you decided to participate in this interview?

#### Involvement in Fairbourne

4. Can you tell me how your organisation is involved in the decision-making about Fairbourne?
5. How would you describe the current involvement of [your organisation] in the plans on the future of Fairbourne?
6. How has [your organisation] become involved in the decision-making on the future of Fairbourne?

#### Network & power relations

7. In what ways have you worked together with other organisations or partners to make decisions on the future of Fairbourne?
8. Who would you say are the most involved and influential organisations or people in the situation on the future of Fairbourne?

#### Policies

9. Which policies and decisions have been approved and are currently active that influence the future of Fairbourne?
  - o How do these policies determine the future of Fairbourne?
10. In what ways do these policies support the mobility of Fairbourne's residents?
11. In what ways do these policies support the immobility of Fairbourne's residents?
12. Are there policies or decisions on the table for potential future implementation?
13. Are there any specific obstacles or opportunities for future policies?
  - a. Financial aspects? Funding?
  - b. Material aspects? Infrastructure?

#### Engagement with community in Fairbourne

14. In what ways have you been in contact with the residents in Fairbourne?
  - a. Gwynedd Council/YGC: Health Impact Assessment
15. How did these interactions go?
  - a. Have you come up against any resistance in your interactions?
  - b. Have there been opportunities for working together?
  - c. Have you noticed any change in the interaction over time?
16. In what ways are you planning to engage with the community in the future?



Future

17. Are there any specific steps that are essential in your opinion for a clear future of Fairbourne?

Closing

- Do you have anything else to add or to adjust regarding your previous answers?
- Consent form check/copy
- Contact details: send you the results
- Do you have any other contacts I could talk to? Do you have any documents/links?
- Do you want remain fully anonymous or can I include your name – if I check with you first?

## **A2: Interview guide for financial/insurance advisors**

Introduction

- Introduction by me: MES at WUR, climate mobilities perspective, interaction between the decisions and the inhabitants, especially mobility
- Consent form & consent for audio/video recording

Background of organisation:

1. Can you introduce yourself and your function at [your organisation]?
  - a. How long have you worked at [your organisation]?

Climate change and financial investments

2. Can you explain how financial investments can be at risk from climate change effects?
3. In what ways could financial investments be protected against climate change effects?
4. In what ways are financial investments protected from climate change effects in the UK?
  - a. Are there currently certain policies in place that do this?
  - b. And is there a difference between England and Wales?
  - c. Do you know of any policies on the table for the future that would do this?

Climate change and insurance

5. In what ways can houses or investments be insured against climate change effects?

Climate change, finances and Fairbourne

- *I will explain more about situation in Fairbourne if they have not heard about it*
- 6. In your professional opinion, in what ways would the financial security of the residents of Fairbourne be influenced if the plans to move the town will become reality?
- 7. How would situations like Fairbourne be solved or supported in a financial way?

Closing

- Do you have anything else to add or to adjust regarding your previous answers?
- Consent form check/copy
- Contact details: possible follow-up interview, check your answers, send you the results
- Any other contacts for me to talk to
- Anonymous or name with consent
- Thank you!

### A3: Interview guide for Fairbourne inhabitants

#### Introduction

- Introduction by me: MES at WUR, climate mobilities perspective, interaction between the decisions and the inhabitants, especially mobility
- Duration of the interview
- Consent form & consent for audio/video recording
- Have you given interviews before? Why have you decided to participate in this interview?
- Can you tell me about yourself?

#### Background of living in Fairbourne

1. How long have you lived in Fairbourne?
2. Why did you come to live in Fairbourne?
3. How would you describe your involvement in the community?
  - o Do you have a job in Fairbourne? Or nearby?

#### Experience of living in Fairbourne

4. In general, how would you describe living in Fairbourne?
5. What are positive aspects for you about living in Fairbourne?
6. What are negative aspects for you about living in Fairbourne?

#### Policy plans

7. The current Shoreline Management Plans aim to end the protection of Fairbourne in the long-term. How did you hear about the plans for Fairbourne's future?
8. Have you noticed any changes in Fairbourne because of the plans?

#### Mobilities

9. Have policies and decision on the future of Fairbourne influenced your daily life in Fairbourne?  
If yes, how?/ in what ways?:
  - o Financially: in what ways are is your financial situation influenced by the decisions on the future of Fairbourne?
  - o Mobility / ability to move or stay: in what ways is your ability to stay or move influenced by the uncertainty?
  - o Plans/aspirations to move or stay: in what ways are your aspirations/plans to stay or move influenced by the uncertainty?
  - o Accessibility: in what ways has the uncertainty influenced your accessibility to infrastructure or other things?
  - o Voluntary/involuntary

#### Involvement

10. Can you tell me if you have been trying to influence the plans for the future of Fairbourne?
  - o In what ways?
  - o How long have you been involved?
  - o Why did you become involved?
  - o With whom did you work together on this?
  - o What responses did your involvement get up to this moment?
11. Which (other) institutions have been involved to your knowledge?
12. Who would you say are the most involved and influential people or organisations in the situation on the future of Fairbourne?
13. *Health Impact Assessment*. Have you been involved in the Health Impact Assessment that is being carried out for Gwynedd Council?

## Communication

14. How have you experienced the interaction and communication between your organisation and other organisations that are involved in the future of Fairbourne?
  - Have you been in contact with the decision-makers in Gwynedd Council, YGC, Fairbourne Moving Forward, etc.?
  - Have you come up against any resistance in your interactions?
  - Have there been opportunities for working together?
  - Have there been obstacles in working together?
15. *Fairbourne Facing Change*: does this exist?
16. Fairbourne has been featured on many media platforms. In what ways have the media/media articles about Fairbourne's future influenced your experience of living in Fairbourne?

## Future

17. What do you expect in the coming years regarding the situation around Fairbourne?
18. What do you hope for the future of Fairbourne?

## Closing

- Do you have anything else to add or to adjust regarding your previous answers?
- Do you know of anyone else that lives here that I could talk to?
- Consent form
- Contact details: possible follow-up interview, check your answers, send you the results
- Have you given interviews before? Why have you decided to participate in this interview?
- Thank you!

## Appendix B: Consent forms

### B1: Consent form community members

#### **Statement of Informed Consent**

Research Study Title: Climate mobilities in Fairbourne, Wales

Researcher Name: Hilde Vink ([hilde.vink@wur.nl](mailto:hilde.vink@wur.nl))

#### **Description of the study**

You are being asked to take part in a study. This is a study about climate mobilities in Wales, specifically in Fairbourne. The climate mobilities lens is used to study the way people move or stay under changes from climate change and decision-makers. I aim to explore the response of residents in Fairbourne to these changes. To research this, I plan to interview both residents from Fairbourne and key people and institutions that have been involved in the decision-making process regarding the future of Fairbourne.

You are being asked to participate because of your residence in Fairbourne.

You will be asked to participate in an interview. It will take about 30-60 minutes to complete. Before signing, please read this form and ask any questions.

#### **Risks and Benefits of Being in the Study**

This study poses little risk to you. You may stop participating and answering the questions at any time. There are no direct benefits to you from taking part in the study. Your input will be important to research projects and publications by improving our knowledge of how decision-makers deal with climate change predictions and how that affects communities. Your input is important to these discussions. The information from this project will be shared with the participants. It will be shared via email.

#### **Confidentiality**

- The data derived from this study may be used in education, student projects and published in academic journal article(s) but you will not personally be identified without your consent.
- I will audio tape the interview with your consent.

#### **Voluntary Nature of the Study**

We thank you very much for your participation. Your decision to participate is completely voluntary. You may choose not to answer any part of the study or stop taking part at any time without any penalty to you.

#### **Right to Erasure:**

☐ I understand that I am entitled to have the abovementioned information destroyed at my request, both during the research and while in storage.

## Contacts and Questions

If you have any questions or concerns, please contact Hilde Vink [hilde.vink@wur.nl](mailto:hilde.vink@wur.nl). If you have additional questions regarding your rights as a research participant, please contact the Wageningen University and Research Scientific Integrity Committee at [cwi@wur.nl](mailto:cwi@wur.nl).

☐ Yes, I would like to take part in the research.

Please state your name:

\_\_\_\_\_

Age: \_\_\_\_\_ Gender: ☐ Female ☐ Male ☐ Prefer not to say

Date: \_\_\_\_\_

Signature:

\_\_\_\_\_

## Recording Permission

I have been told that an audio recording may be taken during my participation but that these recordings **are not for publication in any format**. I have been informed that I can ask that the recording be turned off at any time.

I agree to be audio taped under the above stated conditions.

☐ Yes

☐ No

SIGNATURE:

\_\_\_\_\_

To be filled in by the researcher registering consent:

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## Statement of Informed Consent

Research Study Title: Climate mobilities in Fairbourne, Wales

Researcher Name: Hilde Vink ([hilde.vink@wur.nl](mailto:hilde.vink@wur.nl))

### Description of the study

You are being asked to take part in a study. This is a study about climate mobilities in Wales, specifically in Fairbourne. The climate mobilities lens is used to study the way people move or stay under changes from climate change and decision-makers. I aim to explore the response of residents in Fairbourne to these changes. To research this, I plan to interview both residents from Fairbourne and key people and institutions that have been involved in the decision-making process regarding the future of Fairbourne.

You are being asked to participate because of your knowledge on \_\_\_\_\_

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You will be asked to participate in an interview. It will take about 30-60 minutes to complete. Before signing, please read this form and ask any questions.

### Risks and Benefits of Being in the Study

This study poses little risk to you. You may stop participating and answering the questions at any time. There are no direct benefits to you from taking part in the study. Your input will be important to research projects and publications by improving our knowledge of how decision-makers deal with climate change predictions and how that affects communities. Your input is important to these discussions. The information from this project will be shared with the participants. It will be shared via email.

### Confidentiality

- The data derived from this study may be used in education, student projects and published in academic journal article(s) but you will not personally be identified without your consent.
- I will audio tape the interview with your consent.

### Voluntary Nature of the Study

We thank you very much for your participation. Your decision to participate is completely voluntary. You may choose not to answer any part of the study or stop taking part at any time without any penalty to you.

### Right to Erasure:

☐ I understand that I am entitled to have the abovementioned information destroyed at my request, both during the research and while in storage.

## Contacts and Questions

If you have any questions or concerns, please contact Hilde Vink [hilde.vink@wur.nl](mailto:hilde.vink@wur.nl). If you have additional questions regarding your rights as a research participant, please contact the Wageningen University and Research Scientific Integrity Committee at [cwi@wur.nl](mailto:cwi@wur.nl).

☐ Yes, I would like to take part in the research.

Please state your name:

\_\_\_\_\_

Date: \_\_\_\_\_

Signature:

\_\_\_\_\_

## Recording Permission

I have been told that an audio recording may be taken during my participation but that these recordings **are not for publication in any format**. I have been informed that I can ask that the recording be turned off at any time.

I agree to be audio taped under the above stated conditions.

☐ Yes

☐ No

SIGNATURE:

\_\_\_\_\_

To be filled in by the researcher registering consent:

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## Appendix C: Network from ATLAS.ti

Network made in ATLAS.ti to link the codes regarding the community interviews.

The network exists out of several different images about different themes. The block with green icons are codes that were used to code the text, while the pink note icons represent memos, in which I made notes about that topic. Some codes are coloured, to show a certain theme or topic.

Image 1. Code network showing codes regarding mobilities and immobilities of Fairbourne inhabitants.

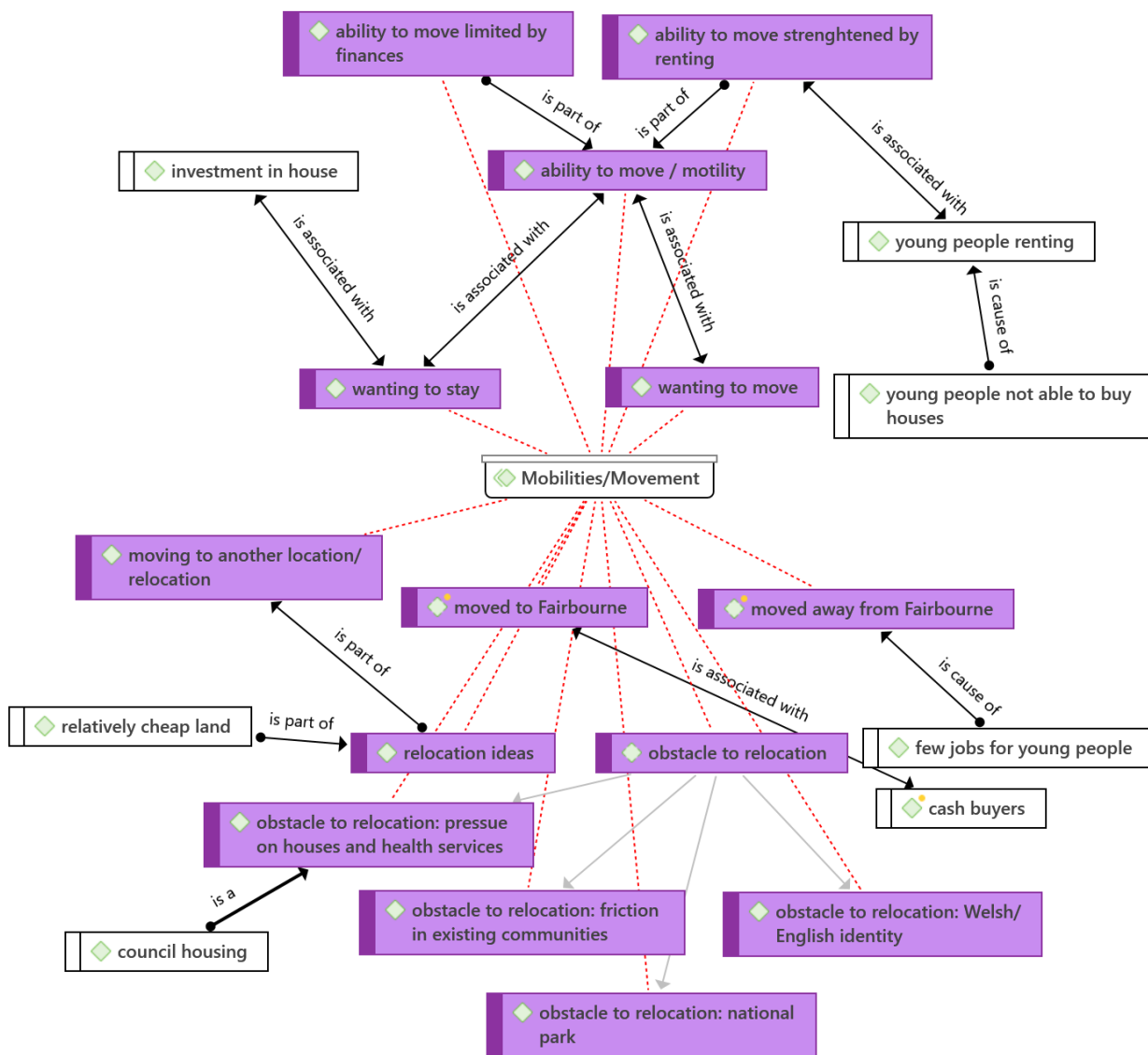




Image 2. Code network showing codes regarding the physical flood defence mechanisms in Fairbourne.

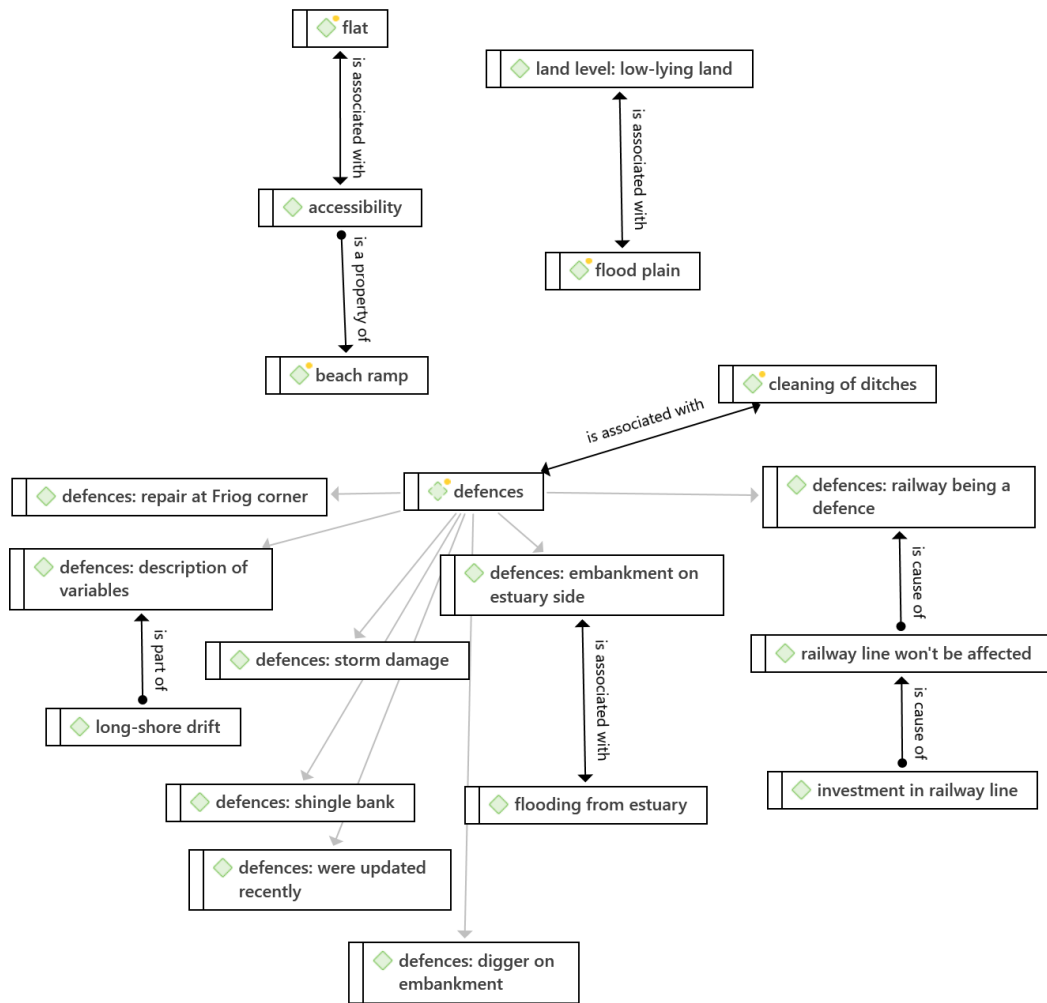
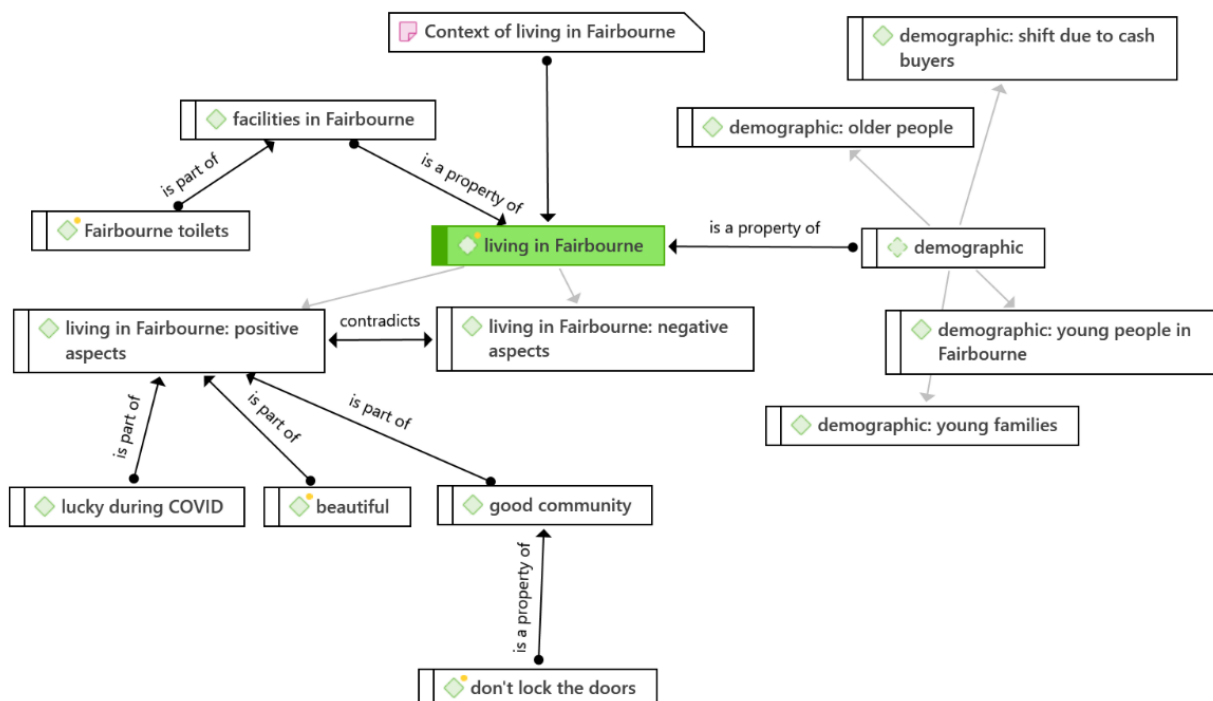


Image 3. Code network showing codes regarding the experiences of inhabitants about living in Fairbourne.



The diagram illustrates the relationships between various types of community involvement. The central node is 'Involvement'. It is connected to several other nodes: 'Involvement: petition' (via 'is cause of'), 'Involvement: Fairbourne Facing Change' (via 'is cause of'), 'Involvement: meetings at village hall', 'Involvement: citizens advice meetings', 'Involvement: Health Impact Assessment', 'Involvement: email list', 'Involvement: flood warden', 'Involvement: asking critical questions' (via 'is cause of'), 'Involvement: Fairbourne Project Board', 'Involvement: Arthog Community Council', and 'Involvement: time'. There are also associations: 'Involvement: hard core' is associated with 'Involvement: Arthog Community Council' and 'Involvement: Fairbourne Project Board'; 'Involvement: less appropriate for newcomer to be involved' is associated with 'Involvement: asking critical questions' and 'Involvement: Fairbourne Project Board'.

[illegible]

Image 6. Overview of the code network regarding codes describing the climate mobility regime of Fairbourne. The code groups, indicated by the red dotted boxes, will be shown in a readable format separately. The numbers indicate which image refers to which part of the network.

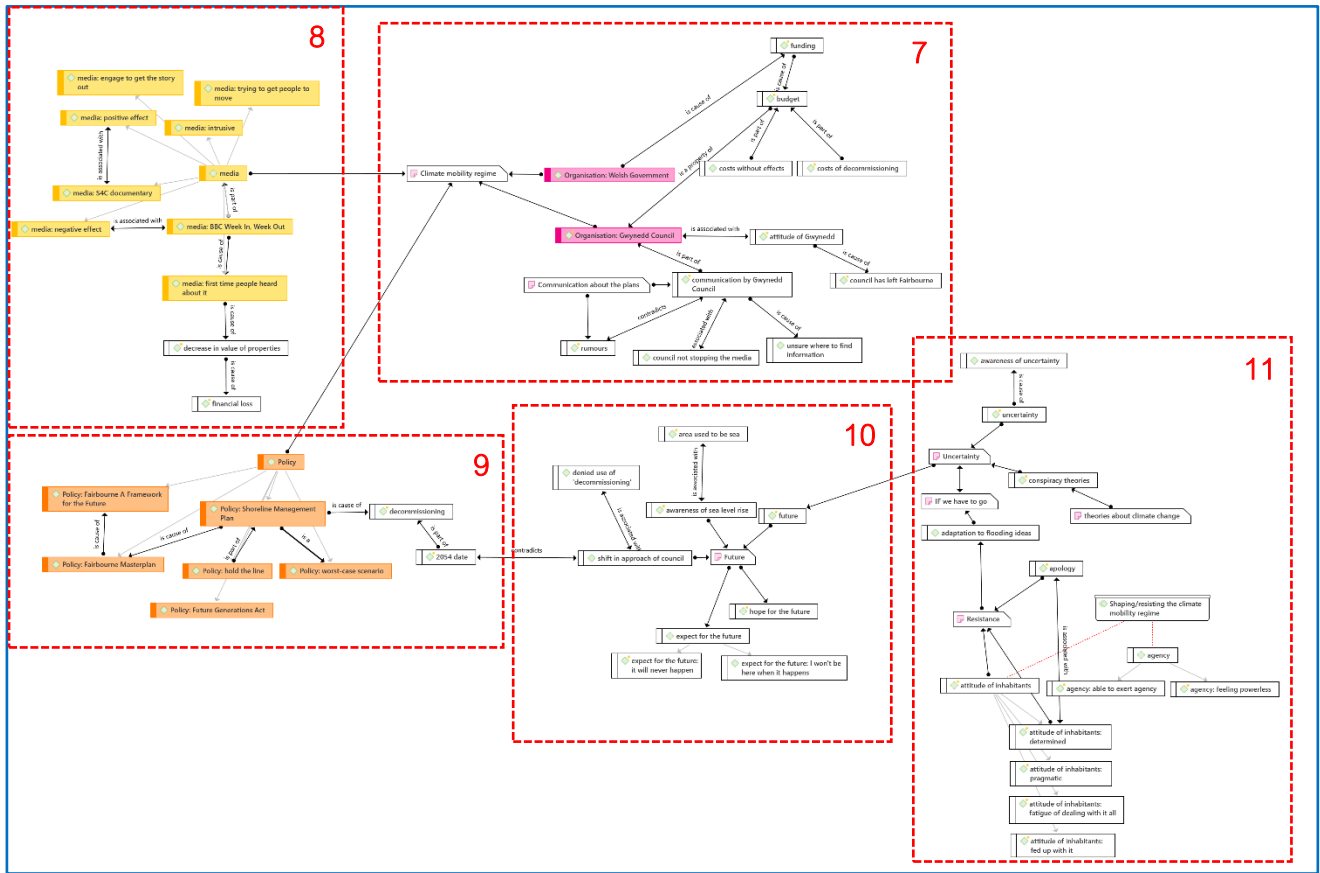


Image 7. Part of the code network showing codes regarding the climate mobility regime. This part shows the codes regarding Gwynedd Council and the Welsh Government as climate mobility regime actors.

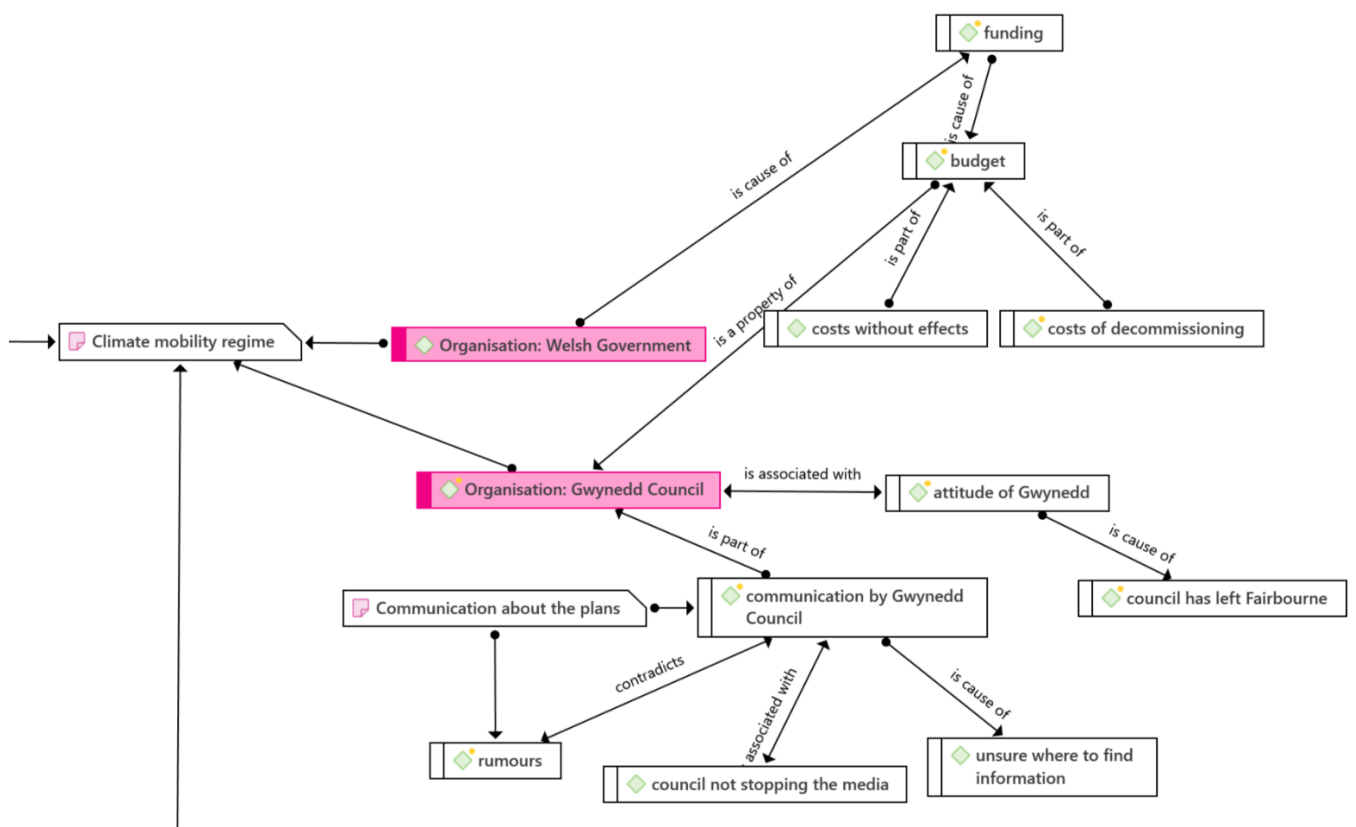


Image 8. Part of the code network showing codes regarding the climate mobility regime. This part shows the codes regarding the media actors as part of the climate mobility regime.

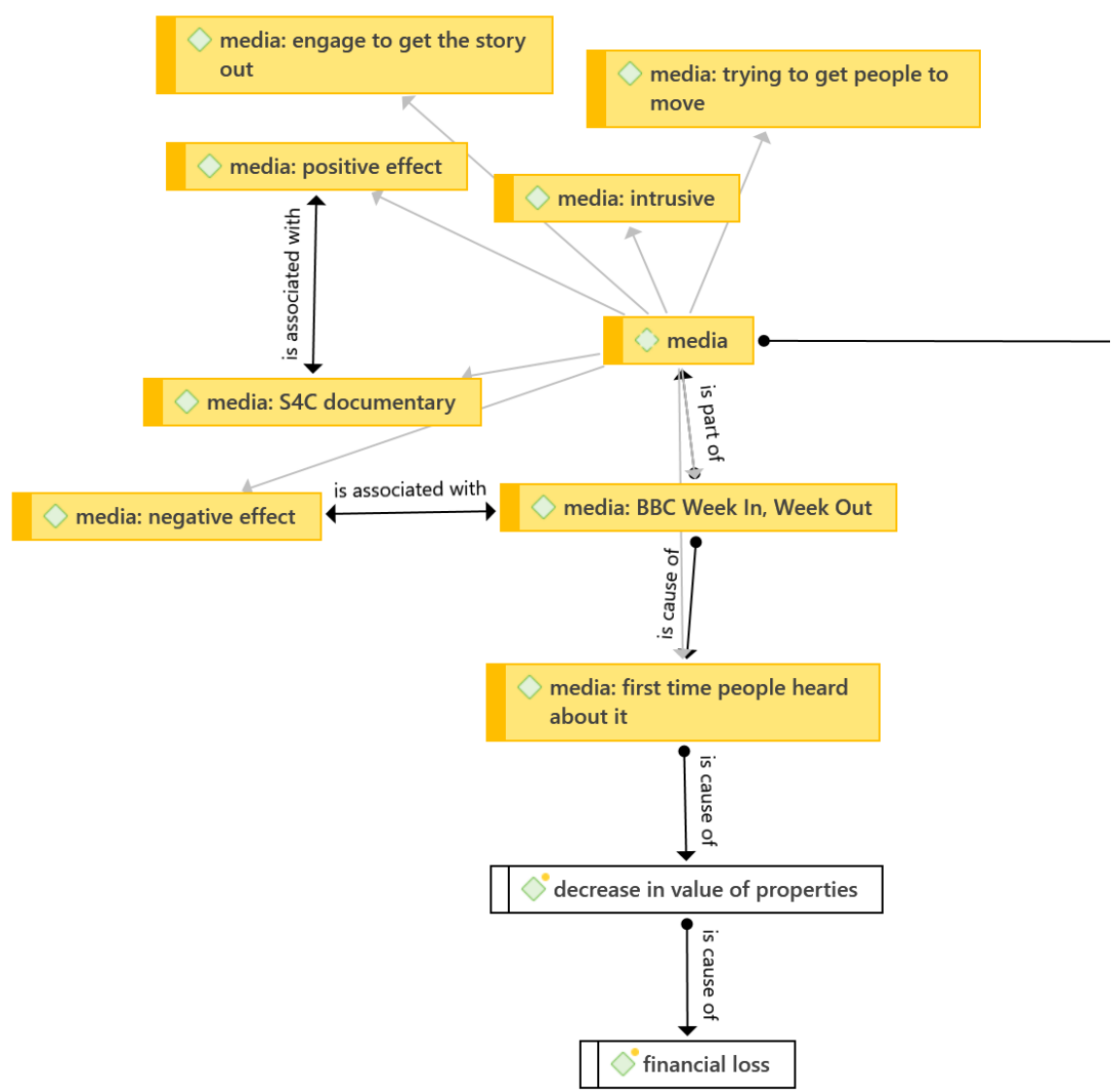


Image 9. Part of the code network showing codes regarding the climate mobility regime. This part shows the codes regarding the different policies that were mentioned by inhabitants in the interviews.

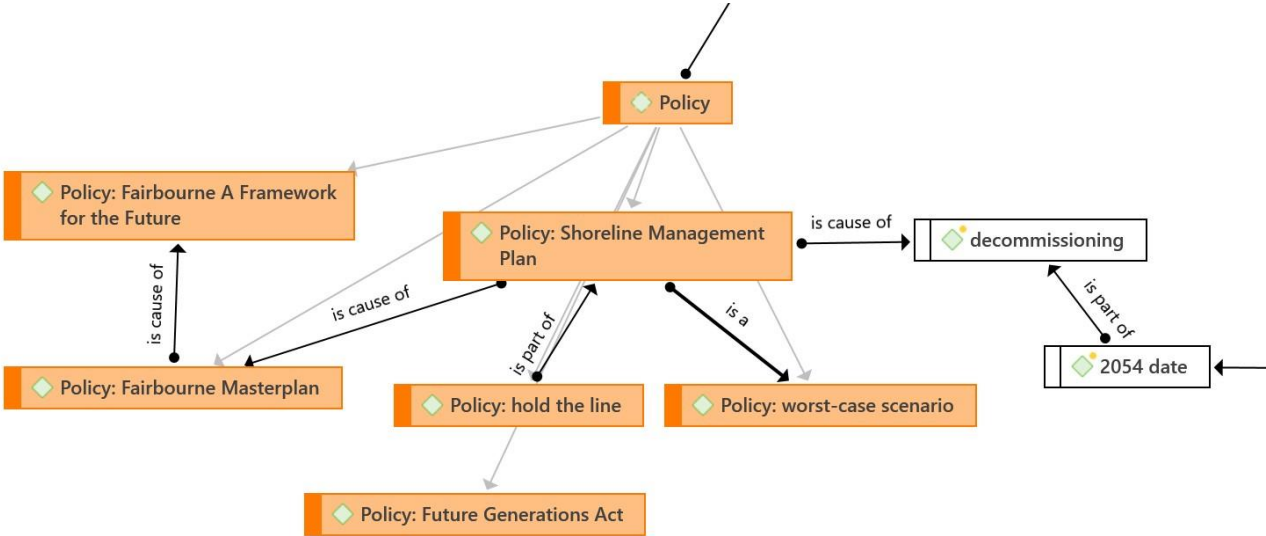
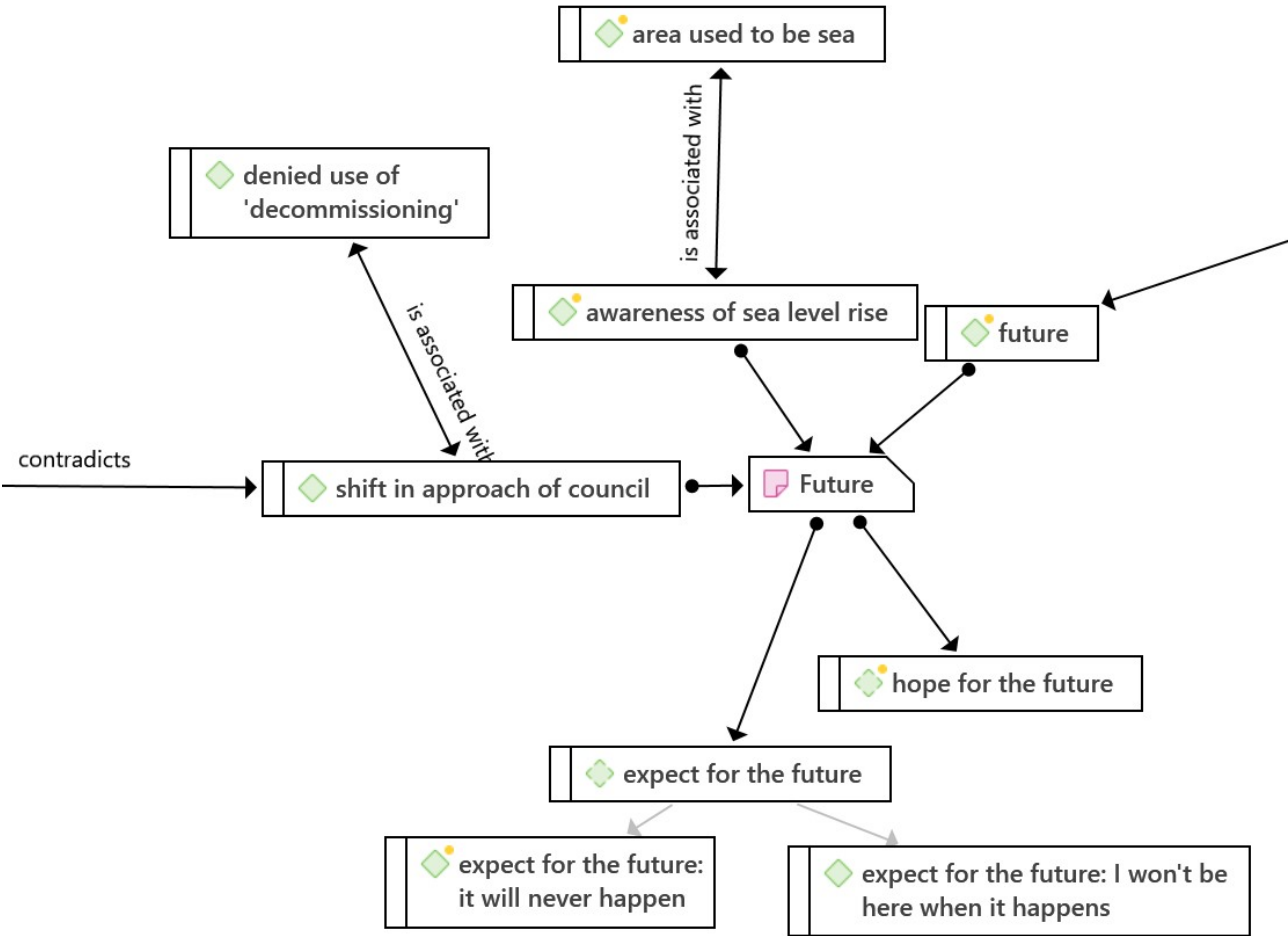


Image 10. Part of the code network showing codes regarding the climate mobility regime. This part shows the codes regarding the future of Fairbourne.



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