



**Kira Vinke**

## **Storm Nomads**

### **How climate change is robbing us of our homeland**

Original title: Sturmnomaden – Wie der Klimawandel uns Menschen die Heimat raubt

September 2022

520 pages

#### **Fleeing the climate crisis – what happens when home is no longer liveable**

The climate crisis will deprive millions of their livelihoods. People are already trying to adapt and build new ways of life through migration. Most climate refugees find refuge in their own countries, but pressure on European borders will also increase if efforts to turn the tide on climate change fall short of what is needed. Kira Vinke's ground-breaking book, backed by research and global investigation, gives a face and a voice to the people at risk. She makes clear which changes in our climate are already irreversible – and what options we have left to counter the climate crisis and enable those affected to stay or migrate in safety and with dignity.

- One of the foremost experts on climate migration
- A global overview of the social impacts of climate change
- Climate change is the defining social issue of the 21st century



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**Dr. Kira Vinke**, born in 1988, is the director of Center for Climate and Foreign Policy at the German Council on Foreign Relations (DGAP), a scientist at the Potsdam Institute for Climate Impact Research (PIK) and a co-chair for the German Government's Advisory Council on Civilian Crisis Prevention and Peacebuilding. Her research focuses on the human dimensions of climate change, particularly the impact of climate on migration movements and human security.

Kira Vinke's work is an eye-opening testimony to the impacts of the climate crisis on migration and displacement. Her rigorously researched book combines narrations of displacement experiences around the world with hard facts. Despite all the challenges, it offers hope and highlights the urgency to act now.

*Andrew Harper, Special Advisor to the High Commissioner for Climate Action, UNHCR*

Sample Translation „Storm Nomads” (Kira Vinke)

Sample Translation

By Annette Pollner

STORM NOMADS

How Climate Change Steals Our Homes

By Kira Vinke

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## FOREWORD YOUR MIGRATION AND OURS

She is forced to leave in the middle of the night. She must flee and take her children on a perilous journey. She is well aware of the high risk of failure. Fears and doubts are her constant companions. But she is prepared to put her own life and the lives of her sons and daughters on the line for the chance of a life in safety.

Whose refugee story is this?

The Ukrainian war refugee? The story of a Syrian family? The attempt to escape from the vicious circle of poverty and violence in Burkina Faso? Fleeing from a super storm in Bangladesh? Or is it your own?

There are currently around 100 million ways to answer this question. Because there are more refugees right now than ever before, over 100 million, as the UN United Nations High Commissioner for Refugees (UNHCR) announced in May 2022.

Stories about displacement and refugees have also historically shaped our own identity and values, such as the brave East German citizens who wanted to live in freedom and risked their lives to leave their country. A brief segment in a chapter of very recent German history that deserves our admiration.

Displacement and migration connect us more than they divide us, even if the categories of ‘refugee’ and ‘migrant’ might make us think otherwise. Although displacement and migration are part of our historical DNA, many of us are appalled by the events in the Mediterranean, at the border between the US and Mexico or in the Sahara desert. We’re asking ourselves what motivates people to expose themselves – and often their children as well – to such extreme dangers. One image that hardly anyone will ever be able to forget is that of the dead body of little Alan Kurdi. The Syrian boy, just under three years of age, died on a refugee journey across the Mediterranean in 2015. His lifeless body was washed ashore on a Turkish beach and recovered by a police officer. What is going on in the countries of origin that people are willing to leave everything behind for an uncertain future? It is important to be as detailed as possible in our analysis because there are many different reasons for becoming a refugee.

In 2022, the unthinkable happens. Russia, under the leadership of Vladimir Putin, attacks Ukraine. Bombs are falling on the capital Kyiv, the port city Mariupol, on Kharkiv and other towns. Lviv, near the Polish border, is bombed as well. Millions flee the country, millions more are internally displaced. How their lives will continue, whether they will be able to return after the end of hostilities or if they will have to settle in a foreign country remains unclear at the time of the publication of this book.

But in addition to the armed conflicts that seem to monopolise our attention, there are many other factors that can force people into displacement and migration, as the Report by the Commission on the Root Causes of Displacement of the Federal Government of Germany (Fachkommission Fluchtursachen der Bundesregierung) “Preventing Crises, Creating Prospects, Protecting People” shows. The commission concludes that there is rarely one single cause – as in the case of Ukraine – for the displacement of a person or a family. The pressure is often driven by a combination of factors, some direct such as war, persecution, violence or poverty, others more indirect. And climate change is one of them. Its devastating impact destroys livelihoods and exposes people to enormous risks.

This book is about the impact of climate extremes on displacement and migration. It is the result of eight years of research. I write not only about immediate changes in our environment but also how they affect our society, and how governments can facilitate or obstruct our

adaptation to climate change. I talked to people in many countries who were forced to leave their homes by the impact of climate change, and with those who tried to support them as well as with others who want to prevent migration. What emerged from these interviews is a compendium of scientific papers but also a complex overall image as well as my personal impression of the state of our planet and the people living on it.

I would like to share this image, this mosaic assembled from many individual pieces, with you and lend a voice to people who have already entered into the struggle with the forces of nature. Many of them have become uprooted wanderers whose homes have been destroyed and whose future is uncertain, not least because storms, droughts and floods are becoming more frequent and can displace them again. These ‘storm nomads’ have witnessed the damage caused by the atmosphere to our living environments with their own eyes. There can be no human development without a stable climate. There can be no peace without climate protection, no hope without decisive transformation. At this point, the damage can only be limited by a fast exit from fossil fuels and a sustainability transformation in all sectors. Even now, many ecosystems are already suffering the impact of decades of political climate lethargy. Climate displacement and climate migration have increased during the past decade, even within Europe. What kind of scenario awaits us in the coming decades? Migration is part of our history, of the history of humankind. We are the ones who determine the next chapter.

*The structure of this book:*

I would like to introduce you to the various dimensions of climate migration. Initially, we will look at specific patterns of migration such as migration within a country or beyond its borders, voluntary or forced, seasonal or permanent, as well as the question of how much climate change impacts our society (chapter 1). The next chapter deals with the legal framework and what kind of protection people can count on when they leave their homes (chapter 2). Then I will take you on a journey to very different parts of the world for an impression of the human side of the climate crisis. You will learn about the consequences of climate change that threaten the existence of small island states (chapter 3), of violent conflicts against the background of hydro-climatic extremes in the Sahel region (chapter 4), of super storms in the Philippines and in Bangladesh (chapter 5), the destruction of biodiversity and the many consequences of climate change in the rain forests of the Amazonas (chapter 6), and the challenges faced by certain living environments in Germany and Switzerland (chapter 7). Following these geographically based observations, I will present a concrete proposal as to how particularly endangered people could be supported (chapter 8) as well as fragments of hope that show ways out of the climate chaos through innovation, projects and civil society initiatives (chapter 9). So, let’s get started...

*Kira Vinke*

CHAPTER 1  
JOURNEY INTO THE UNKNOWN  
CLIMATE MIGRATION IN THE 21<sup>ST</sup> CENTURY

Displaced in Their Own Country – Migration Patterns in the Times of Climate Change – Decades of Climate Migration – Small Data, Big Data, No Data? – The Nomadisation of our Lifestyle – What does Climate Migration have to Do with Us? – Trapped in Climate Chaos – Covid-19 and Climate – Future Perspectives

On a sweltering day in New Delhi, as the concrete was melting outside and zebra crossings dissolved into snaking watercolours, I sat in a somewhat dilapidated guesthouse, discussing the situation of itinerant labourers in India with my room mate. These labourers come from rural areas, where they originally worked as farmers or often just as landless tenants and had few opportunities to exercise their rights. Millions of domestic migrants toil in India's boom towns, most of them under extreme conditions. Brutally hard labour. Without workplace protections, they perform extremely challenging physical tasks and serve as a shadow engine for the growing prosperity of the national economy. The heat is intolerable on some of these summer days, the labourers are choking on the polluted air, but the construction sites never stand still. They are filled with people forced to earn a living any way they can. We asked ourselves what exactly it was that drove them into the cities. Is it really 'just' the desire for a better life and economic advancement, as the narrative of urbanisation so often suggests? Are they trying to escape from the downward spiral of rural poverty and scarce resources? Or do they perhaps have no other choice than to leave their homes? Is it possible that climate change is forcing them to do so? At the time, in 2013, I was conducting research at the Teri University (The Energy and Resources Institute) in Delhi on the subject of water security and transnational river management. After this conversation, I started to look into climate migration.

The search engine Ecosia throws up around 15,800 results for the term 'climate migration'. No wonder: the fact that there is a connection between climate and migration, that the impact of climate change can include migration, has launched many debates among scientists and in the media during the last few years. Climate displacement is a subject that attracts attention, often dominated by theoretical questions about the definition of the term and bold projections of future migration streams. And not infrequently, this debate drifts into a campaign of fear around the core question of 'How many people will come here?' which barely conceals a deeper concern: 'Will I have to share some of my prosperity?'

The people who are already endangered and migrating today, at around 1.2°C above normal temperature, have received relatively little attention so far. The complexity of the situation may also play a part here. Like most human actions, migration has multiple causes. This means that people migrate for many different reasons, for instance because they are looking for better work opportunities, because there is increasing population pressure or because of family difficulties, but the impact of climate change may also be a factor in certain driving forces of migration, such as when storms and floods destroy the harvests of subsistence farmers or heat waves make outdoor labour intolerable.

So far, climate change is not yet the dominant factor in global migration streams. The Intergovernmental Panel on Climate Change (IPCC) did however show us very clearly in 2021, and by no means for the first time, that there are hard times ahead in all emission scenarios. We are no longer spared the painful insight that, for the younger generation, there will be no way back to the climate that their grandparents grew up in. Even if we manage a fast exit from fossil

fuels and transform significant industries like agriculture and transport, it will get warmer first before we can limit the rise of average global temperatures. This is partly due to the inertia of our global economy that can not be decarbonised or become climate-neutral overnight and partly to the planetary response to a change in the CO<sub>2</sub> content in the atmosphere. The chance to counteract global warming in a timely manner has long been wasted. This means that the impact of climate change that, so far, has been part of the background noise in the bandwidth of factors influencing migration decisions and migration routes, could now become a much bigger factor. Nevertheless, we can still avert the worst and minimise the climate risks threatening our civilisation.

On my research trips to the hot spot regions of climate change in South Asia, Latin America, Sub-Saharan Africa and the Pacific, I was able to experience how extensive climate change already is, and what its impact is, both for the migrants themselves and for the sending and receiving communities. The steep temperature curves and complex charts represent human stories that rarely feature in the discussions and climate protection programs on the national and international level. But here in Europe, too, conversations with farmers or fishermen show very quickly that normality is crumbling, even if the surface still looks intact.

Today, in 2022, it is clear that nothing is the way it used to be. The climate system is spinning more and more out of balance. By now, forest fires, storm surges, and disastrous droughts dominate the news from near and far. After extremely hot summers, warm winters and devastating floods, climate change has arrived in Germany. And there can be no doubt that the times of a stable global climate are over. In some discussions, you can hear the phrase: “People have always migrated in order to adapt to change.” While that is true, the change taking place right now is dramatic and unprecedented within the past several thousand years. Sea levels are rising faster than at any time within the last 3,000 years. The concentration of CO<sub>2</sub> in our atmosphere is higher than at any point within the last two million years. This means that we are the first humans who have to live and deal with such a high concentration of CO<sub>2</sub> in the atmosphere. Homo sapiens has only existed for 300.000 years. We are in the middle of a self-inflicted global experiment with uncertain results. At the same time, we have the highest global population ever, many areas are more densely inhabited than in the past and our resources are limited. The migration needed in response to this transformation is therefore a challenge for all of humanity.

### **Displaced Within their Own Country**

The displacement journey of people who leave their familiar environment to start a new life in a less endangered location largely takes place within the borders of their own country, or leads them, in 86% of cases, as documented by data from the UN Refugee Agency (UNHCR), to (neighbouring) developing and emerging countries. This is also confirmed in the meta-analysis by my colleague Roman Hoffman in which he summarises and statistically processes the results of multiple other studies. Very few are drawn to places far away, like Europe or North America. Most people want to stay close to their native towns and villages and their culture.

Hans Joachim Schellnhuber, founder of the Potsdam Institute for Climate Impact Research, debunks the much-used water metaphor of a ‘wave of refugees’ coming towards Europe in his book ‘Selbstverbrennung’ (Self-Immolation). “The big displacement movement is more like seepage through the poorer regions of the world, with entire ethnic groups occasionally ending up in a dead end”, he says in his extensive work. But others do not even have the option of migrating over long distances. They lack the necessary resources or simply access to means of transport. But more about that later.

The Internal Displacement Monitoring Centre (IDMC), collecting, evaluating and analysing



data on internal displacement, reported its highest numbers for 2020: 40.5 million were newly internally displaced. This sad record is not directly and exclusively linked to the impact of climate change since a large number (30.2 million) of people were fleeing from natural disasters, while 9.8 million sought protection from armed conflict.

The natural disasters recorded here were overwhelmingly weather-related. Only 650,000 displacements were due to earthquakes or eruptions of volcanoes unconnected to the impact of climate change. Although not all extreme weather events are caused by the impact of climate change, such events do take place with increasing frequency and intensity as a result of climate change. It is particularly concerning that, in many areas, even less extreme flooding, storms or droughts can have a catastrophic impact on the population since the infrastructure is so fragile there. Those who were unlucky in the ‘lottery of life’ in the first place now often suffer the worst impact. They live in poverty, without access to good education, healthcare and welfare. They work as subsistence farmers or fishermen in rural areas or as construction workers and rickshaw drivers in urban slums. 30 million newly internally displaced people are hard to imagine since we are predominantly touched by the fate of individuals where we can sense and try to understand the struggle for survival that a part of humanity is already engaged in.

### **Migration Patterns in the Times of Climate Change**

Migration is interwoven with our lives as in a fine carpet. Moving around has become commonplace for many of us. We move house, find a new job, adapt to a new environment. Fewer and fewer people spend their retirement in the place where they were born. But there are very different kinds of migration. There is displacement, resettlement or becoming a refugee. They each have their own individual patterns that can be described along three continuums: the degree of voluntariness (was this a forced migration or was it voluntary?), the time frame (are people leaving their home permanently, in the medium or short term, or will they perhaps return at some point?) and the geographic dimension (how long were the distances covered on the migration route and were national borders crossed in the process?)

There are also hybrid forms of migration between these different poles that largely elude hard categorisation and differentiation. Thus, migration that was originally seasonal can slowly extend to cover an increasingly longer time period and finally become a permanent state. The question of how far migration is indeed voluntary if everyday life is determined by poverty and lack of perspectives, can also often not be answered conclusively. The greater part of migration therefore takes place in a grey area.

In a sense, climate migrants exchange one risk for another. The hunger threatening survival in rural areas as a result of lost harvests can sometimes be exchanged for existential insecurity in the city with insufficient money to buy food. The risk of storm damage is balanced by the risk of having to live under a corrugated iron roof in extreme heat in a densely populated slum. Migrants are indeed often even worse off after they migrate. But they still take that risk, often supported by others, by their family, their partners, their village community who may even collect the funds that make their leaving possible in the first place. There may also be people at their destination who can receive the new arrival, a diaspora that helps with the first steps. Thus migration is not just a movement from A to B but part of a societal system. It is a source of collective hope, a driving force in the search for a better life.

While some people migrate of their own accord, others are resettled via government programs. These are measures that often become decisive watersheds; they destroy social connections and cause the break-up of structures within the communities. The people affected often even lose their economic means of survival. Historical examples of extensive resettlement programs show how brutal this process of uprooting can be and the human rights violations that

come with it, particularly if it is carried out by authoritarian regimes. In former East Germany (GDR), the resettlement of entire villages for the purposes of coal mining have left deep scars in the Lausitz region. But in spite of this, villages are still demolished in Germany even today to make space for surface mining.

The opportunities to migrate are very unequally distributed across the globe. A German or US American passport can facilitate, at the very least, an unproblematic entry into many countries as a tourist. Under normal circumstances, that is. This freedom, usually taken for granted, became severely limited during the infection protection measures against the Covid-19 pandemic. Suddenly, national borders became noticeable again even within the European Union and the majority of the population limited their movement to a very small radius. A sense of a loss of freedom began to spread.

But a large part of humanity already has very limited freedom to travel, quite unrelated to the pandemic. Their passports require complicated and often obscure visa procedures and they are rarely greeted with a friendly ‘welcome’ when they enter a foreign country. Therefore, migration routes are not only determined by the willingness and ability to migrate but also by national borders that were created by politics and are increasingly strongly defended.

### **Decades of Climate Migration**

Estimates of how many people will migrate in future as a result of climate change impact vary widely. They range from the assumption that climate migration is a myth to a billion displaced persons by the middle of this century. Some of these projections are supported by scientific data, others are deeply unreliable. What is the cause of this uncertainty and which numbers and investigations are helpful for making decisions in development policy? In a pessimistic scenario, the World Bank projects over 200 million internally displaced persons in six world regions by 2050. Depending on how much climate change can be slowed down, this number can be halved or perhaps even be brought down further. While the World Bank Report is among the most methodically developed supranational studies, many uncertainties still remain. It is highly questionable, for instance, whether the displacement of over 200 million people will really just take place internally within individual countries or if it will be the cause of further migration dynamics unfolding across national borders.

A simple continuation of the present into the future is impossible due to the complexity of these movements. The further we look ahead, the more difficult it becomes to predict the dynamics of climate migration. They depend on the paths of development we take now and in the coming decades. Will global warming slow down? If yes, by how much? Will poorer and rural regions be able to participate in global economic growth? Which regulatory measures will take place in the labour market? What educational and professional options will be open to women? How will the size of the world population develop? These and other factors will fundamentally influence the dynamics of climate change impact and migration. People will tend to migrate from low lying regions to areas on higher ground in order to soften the impact of rising temperatures and protect themselves from rising sea levels.

Historically, humans have always preferred to settle in coastal areas and along rivers and their fertile deltas. But these are now the most endangered regions. The Netherlands show how infrastructure measures, dyke construction, adaptive architecture and dedicated flooding zones can keep areas habitable that would otherwise disappear under water due to tidal flooding. But such innovative measures can not be carried out technically or find the necessary funding everywhere. In poorer countries, where there is a shortage of all resources, it is hard to imagine that investments of several billion could be made within the next few years or even decades that would protect these regions. Large population groups in the tropics are helplessly exposed to the



impact of climate change due to poverty. Global warming and rising sea levels could eventually lead to a population shift from the tropics towards the polar caps, into the temperate climate zones – with all the societal upheavals that such a redistribution of humanity would entail.

## AFTERWORD NOT QUITE THE LAST WORD YET

How many people live in a slum? How many (non-registered) inhabitants lost their lives in a storm? How many were displaced? These are the kinds of questions that came up all throughout the chapters of this book, but I was not always able to answer them accurately. Partly because of insufficient data collection and partly because of the fact that different sources report similar but still diverging numbers. Nevertheless, as a scientist, I feel dissatisfied when I sometimes can't find definitive answers and constantly come across new questions in my research.

Although every life counts, it is often not counted. At the same time, no number, however big or accurate it may be, can ever represent and quantify the fate of an individual person or a group of people. As Albert Einstein said: “Not everything that counts can be counted. And not everything that can be counted, counts.”

The scientific literature around climate migration has grown considerably within the last decade and runs into many thousands of pages. My ambition was not to condense all these insights into this book. This kind of synthesis reporting is created, for instance, by the Intergovernmental Panel on Climate Change (IPCC). In its Sixth Assessment Report, it also published a chapter on migration. But, dear reader, what I wanted to do was to take you with me on a personal journey approaching this complex, multi-layered subject. Apart from the countries I visited myself and that are the focus of each of the regional chapters, there are many other areas where migration driven by climate change is already reality.

I have quoted scientists, journalists and authors who influenced, impressed or outraged me and who inspired me to deeper reflection on the subject. I am also referencing the work of my colleagues from the Potsdam Institute for Climate Impact Research (PIK) and the German Council on Foreign Relations (DGAP) because many discussions in this debating community of climate and foreign affairs policies have significantly influenced my thinking. I am supporting core facts and hypotheses by quoting selective expert literature. If you immerse yourself in the source links, you will realise how extensive and widely ramified the subject of climate migration is, how much one area relates to another and how much more there still is to know and understand.

In such a rapidly developing field of research, today's insights can be old news by tomorrow. The present only lasts for the blink of an eye. And so this publication also bears witness to a time when we are using the treasures of our planet earth to an extent that pushes our climate out of balance.

If you have ideas, suggestions, additions or criticism, please write to me! The last words in this matter will not be spoken for a long while yet.