

## Chapter 2

# Exploring the Lived Experience of Climate Change

**Abstract** This chapter extends the conceptual and theoretical arguments presented in Chap. 1. It introduces lived experience as a rich and complex narrative, set within societal structures which constrain and/or enable individuals to make sense of climate change. In questioning ‘whose knowledge counts’ from this vantage point of view, we suggest that lived experiences of climate change provide insights and knowledge that go beyond scientific or academically presented knowledge. This experiential knowledge evolves through historical processes and is shaped through a variety of social contexts, both general and specific, between groups (Northern, Southern, rich, poor) and individuals (often defined by race, gender). It is also shaped by our personal and collective positioning in society and the scale of events that affect us. The valuable insights and the diversity can only add to existing knowledge of climate change and influence policy and practice in an inclusive way. In this, the chapter focuses on lived experiences in developing countries, the large majority of whose populations are poor and where climate change issues are linked to and subsumed within embedded poverty.

### 2.1 Introduction: Lived Experiences as Rich, Complex Narratives

Chapter 1 laid the foundations for thinking about lived experiences as an analytical category and introduced case studies of diverse experiences of climate change arising from both rich and poor countries. The chapter also offered a way to conceptualise lived experience of climate change by reviewing broad contextual influences, proximate influences and experiential learning cycles (Fig. 1.2).

This conceptualisation is extended in Chap. 2. In questioning ‘whose knowledge counts’, we suggest that lived experiences of climate change give us insights and knowledge that go beyond scientific or academically presented knowledge. This experiential knowledge is a social process of making throughout our lives. It evolves through historical processes and is shaped through a variety of social

contexts, both general and specific, between groups (Northern, Southern, rich, poor) and individuals (often defined by race, gender). It reflects a continual tension between power relations associated with these contexts and our individual agencies to act. It is also shaped by our personal and collective positioning in society, norms and values that are associated with our culture, and the scale of interacting events that affect us. The valuable insights and the diversity can only add to existing knowledge of climate change and influence policy and practice in an inclusive way. In this, the chapter focuses on lived experiences in developing countries, the large majority of whose populations are poor and where climate change issues are linked to and subsumed within embedded poverty.

Lived experiential knowledge is by its nature subjective and arises from our long-term and short-term experiences of our encounters and dealings with the world around us. It is the knowledge we often associate with wisdom and wise sayings arising from collective or individually observed personal experiences. It is knowledge which we use to recall events in our lives so we do not repeat mistakes or help to improve our lot in life—not that we always follow the path that might appear to others who observe us to be the logical derivation from our lessons!

Lived experience is therefore personal, subjective knowledge with its own logic. It is not something we can necessarily articulate to others (or even wish to do so if the matter is very emotive). Such knowledge is often internalised, drawn from the broad spectrum of ‘experiences’ which of course fall back on several differing bundles of ‘experiences’ and encounters experienced that perhaps only make sense to the individual (but may or may not to others).

Lived experience is about our impressions, imaginations and what we hold closely and guard, but do not/can not always articulate. Our lived experiences allow us to mentally and quickly compare situations and scenarios. We carry these with us to put up self-defences, minimise perceived harm to ourselves and learn to mitigate and adapt to present circumstances. We draw on lived experiences to enhance a tacit knowledge that helps us to function every day and socialise within our particular settings.

Lived experience is then the reality of our life world, the likes of which health disciplines such as psychology and psychiatry rely on to treat patients. Other disciplinary strands such as women’s studies and feminism actively encourage incorporation of lived experiences to bring out histories which have been hidden, or to discuss societal taboo subjects of sexuality. Equally, race is an important determinant shaping an individual or collective’s real lived experiences which disciplinary strands such as whiteness studies draw out in order to challenge historical assumptions. Again, how much race has contributed to personal experiences cannot always be neatly articulated or codified.

It is clear then that lived experience is not a ‘science’ and goes against the grain of natural science which sometimes appears distant and baffling to the lay person. Equally natural scientists may query the rigour of lived experiences using scientific criteria because they cannot be neatly articulated. Nevertheless, discovering and representing individual and shared experiences may open up realities of a life world that are beyond statistics and numbers. For instance, development

studies, which purport to be concerned with poverty, justice and inequality, from local to international scales, make significant use of 'lived experience' to understand the realities of poverty.<sup>1</sup> Whilst financial and other powerful global institutions use several bland but functional economic indicators such as Gross National Product (GNP), Gross Domestic Product (GDP) and inflation measures to indicate levels of national poverty, they do not say much about its reality to the individuals and people of these countries.

For example, the eight United Nations Millennium Development Goals (MDGs) were agreed at an international Millennium Summit of world leaders in 2000, to be reached by 2015.<sup>2</sup> Each Goal is accompanied by specific targets. Thus, Goal 1, Target 1.A reads: 'Eradicate extreme poverty and hunger. Halve, between 1990 and 2015, the proportion of people whose income is less than \$1.25 a day'. Arguably, this target aims to take into account individuals and their families. The \$1.25 criteria by any reasoning, however, remains a one-dimensional reductionist measure providing the world with no account of how the poor juggle, multi-task, borrow, beg, steal, dodge moneylenders and violence to manage survival on that amount of money. Neither does it tell us how this differs for men, women and children and the powerlessness that they may experience in poverty.

In contrast to the measure that defines poverty as living on less than \$1.25 per day, Development Studies research on 'lived experience' is used to capture the subjective, contextual, multi-dimensional nature of poverty as it affects real lives. To make a systemic analysis and sense of what is told (often shouted!) by these voices of the poor, special participatory methodologies have emerged, often comparing and emanating from other humanistic science disciplines. The complexity and richness of 'lived experience' that are derived from poor people's narratives in these participatory settings provide a story of poverty which allows researchers to consider the varying degrees of power which shape an individual's position in society, between groups differentiated by class, caste, gender, ethnicity, race and religion.

Whilst it is easy to articulate scientifically the numbers in poverty associated with 'less than \$1.25 a day' and irrespective of whether MDG Goal 1 targets have been achieved or not, the narratives of lived experience are problematic to codify even if qualitative methodology allows this to an extent. As illustrated in Chap. 1, it is, however, possible to decipher some patterns that act to impoverish individuals, communities and even countries. It is important to discover these patterns (see Chap. 4 for more on pattern making) and what creates them if we are to break cycles of impoverishment and look at the cause rather than a descriptive measure of poverty. Thus, lived experiences add to our knowledge of poverty and survival and complement statistical macro-pictures, which is why it is important to focus on them.

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<sup>1</sup>Poverty and climate change are inexorably linked. This is further detailed in Sect. 2.4.

<sup>2</sup>There is much debate as we go to press regarding the extent to which individual MDGs have been, or are being, met. Important as this debate is, it is tangential to the focus of the book and we do not cover it here or elsewhere.

Thus although lived experience relies on individual and collective narratives, as we explore below, it is possible to articulate commonalities and patterns that can inform us. Lived experiences also have the capacity to represent some commonalities in relation to climate change, but because of the diversity of these experiences, they do not necessarily represent all. Yet these experiences can be shared and certainly give us a picture of context, scale and events that are often difficult to imagine through a science-dominated issue such as climate change. To consider how a systematic and systemic analysis of lived experiences may take shape (and therefore be articulated), we can think of them as ‘social processes of making’—influenced by personal and collective historical narratives, in turn influencing and making societies.

## 2.2 Lived Experience as a Social Process of Making

To articulate lived experience as a social process of making, there needs to be at least a two-fold consideration: (i) how the lived experience evolves over time and (ii) how it is shaped by the interplay between ‘structure’ and ‘agency’ (Box 2.1), both of which require a systematic study of society and societal relationships.

### Box 2.1 Concepts of structure and agency

**Structure** The pattern or framework of relationships between social institutions such as markets, families, class, and political factions. It includes rules of behaviour associated, for example, with moral norms and hierarchies.

**Agency:** The actions of individuals or groups, and their capacity to influence events.

In practice, social analysts combine both concepts, although some tend to favour one over the other. (*Source* Allen and Thomas 2000: 189.)

For climate change, as indicated by Fig. 1.2 in Chap. 1, the interplay takes place between the ‘external’ influences (biophysical and socio-economic contexts) and our conscious actions to do something about the situation. Another way of examining this is to consider the extent to which we consciously create our lived experiences through ‘free will’ and the extent to which our experiences are determined by contextual factors. Lived experience of climate change also, of course, works in a similar way, evolving over time, incorporating individual and collective knowledge set within diverse contexts of external influences and internalised understanding.

As we explore further in Chap. 4, the study of society and societal relationships spans a wide range of social science and humanities subject disciplines that are based on patterns of human interaction. These include, for instance, various strands of sociology, economic, cultural, political and religious life, both at a local and global scale, and analyses of the complexities of human interaction from micro- to macro-levels. Such a study in relation to climate change, for instance,

would allow at least a three-way analysis: (i) of individual behaviours and attitudes, (ii) set within specific local societal contexts, and (iii) within a global context reflecting global structures, issues and actions.

An analysis of individual behaviour requires a critical understanding of social structures within societies, whether in the immediate locality of the individual or within a worldwide context. Much of its theoretical and conceptual analysis is thus around deciphering the everyday relationship between these contexts (structures) and individual behaviour (agency) as noted in Box 2.1.

In these interactions, our daily lives and interaction with each other are patterned, and generally revolve around various organisations, institutions and structures in our immediate lives and wider society in a predictable manner (Box 2.2). These predictions and patterns are defined by the expectations of the roles and status that each of us have within society and are important to its functioning—otherwise interaction in a random manner is often counterproductive and confusing! As humans, therefore, we require relative stability to function every day and the framework for this is located within structures embedded in social institutions and organisations which are an essential part of any society.

### **Box 2.2 Institutions**

Institutions are closely related to organisations and structures. The later Chap. 10, Sect. 10.1 points out those institutions can also be organisations but not all organisations are necessarily institutions. This is because institutions define formal rules which can be enforced (e.g. by state-backed government, police, army institutions), informal expectations (e.g. through social institutions of marriage, family, church) and dualistic which operate both formally and informally (e.g. by educational institutions such as schools and universities).

Cultural theorists, feminists, anti-racists have shown that there is a strong connection between differing contexts and entrenched institutional rules and practices. Challenges to institutional rules and practices also challenge dominant ideologies—representing shared political and philosophical values and attitudes usually of the most powerful and influential people—in turn raising much awareness and action in generating institutional change. For example, (although we are not quite there yet) segregation based on race in the American South, in South Africa and other places has brought about changes in institutional rules and practices. Gender inequality of opportunity has been challenged in many parts of the world within marriages, domestic and work contexts, in turn influencing patriarchal ideologies.

Institutional rules, whether formal or informal, represent power within social structures and are constantly being battled over. We can, in this battle, go forward some steps (e.g. with women's rights to education) but equally there are those who will fight to revert back to rules that suit them (for example, denial of female education by fundamentalist groups). Institutions are therefore a battleground of power politics played out in full public view.

These structures include families (represented through the institution of marriage), religion (represented through churches, mosques, etc.), culture (through everyday norms, practices and values), education (through schools, universities) and organisations (through employment, official bureaucracies). Such structures are crucial within our everyday lives which they shape and hold together. In fact, the importance of these structures may be compared to the rafters and steel girders that hold up buildings, supporting the overall frame upon which the foundations and future construction of the structure are based. At the same time, the rafters and girders provide an overall, overarching influence on the construction and overall future functioning of the building!

To articulate lived experience as a social process, it is, of course, important to be interested in what is upfront (i.e. the building), but more fascinating is what underpins societal behaviour (i.e. the rafters and the girders). It is therefore critical to identify those often taken-for-granted and sometimes invisible structures that are most influential in shaping human interaction in relation to various social issues (of which climate change is one). As societies have many layers through which both individual and societal behaviour is defined, understanding can only come through unpacking these systematically in order to decipher what lies behind individual behaviour.

The argument is that whilst the individual is important, the society within which the individual lives and functions is even more so! This relation between the individual and society, however, is not always immediately apparent as individual behaviour is in fact often internalised or aspects of it are given, or hidden from a public view. Lived experience is a social process which evolves over time arising from the specific historical, economic and social context of which we are creatures. The general consensus which includes scientists, non-scientists and the wider civil society is that climate change is a hugely complex problem. This requires multifaceted problem solving and systems thinking as summarised in Box 2.3, where climate change is viewed as a problem which is part of an overall system, rather than specific bits which need to be resolved (for example, carbon emissions), outcomes (for example, global warming) or events (for example, flooding from extreme weather).

### **Box 2.3 Systems thinking**

This is the process of understanding how things influence one another within a whole. In nature, systems thinking examples include ecosystems in which various elements such as air, water, movement, plants and animals work together to survive or perish. In organisations, systems consist of people, structures, and processes that work together to make an organisation healthy or unhealthy.

Systems thinking has been defined as an approach to problem solving, by viewing ‘problems’ as parts of an overall system, rather than reacting to specific parts, outcomes or events and potentially contributing to further development of unintended consequences.

Source [http://en.wikipedia.org/wiki/Systems\\_thinking](http://en.wikipedia.org/wiki/Systems_thinking) (accessed 27 August 2014).

Currently, there are several critical issues we face as human beings (including a future of food and water shortages) and further unintended consequences of climate change. To complement existing knowledge, lived experience adds a dimension that examines internalised experiential and how societies draw on it to mitigate and act. One way of decoding this knowledge through the overall processes of societal ‘systems’ is by unpacking the complex relationship between individuals and structure through power relations that shape peoples’ lived experiences making it possible to analyse these and articulate how people shape their understandings of climate change.

### **2.3 The Complex Interaction of Structure (Power Relations) and Agency that Makes Lived Experience**

Arguably, it is the complex interaction between societal structures and their differing levels of power relations and individual agency that shape and make our lived experiences. The debate over which—structure or agency—is most influential goes back a long way including the Bible and the ancient Greek philosophers. To step to a closer period, informed by Darwinian evolutionary theories and Durkheim’s sociological analysis (Chap. 4), sociologists, psychologists and philosophers have been fascinated by the discourse on whether individual behaviour emanates from heredity ‘nature’ and the biological characteristics people are born with, or the acquired ones from their ‘nurtured’ social environmental contexts. Although focus on the nature/nurture explanations of individual behaviour continue to differ, generally (and in common sense), they are not juxtaposed as opposites, but ‘a bit of both’.

Equally structure/agency arguments also go over these well-worn routes in questioning what shapes our life experiences, opportunities and behavioural responses. For instance, the poverty example referred to in Sect. 2.1 could be linked to consequences of structural poverty in two ways: (i) through the overarching country poverty and low GDP/GNP per capita in a globalised world, and (ii) through individual stories caught up within the power and unequal relationships of a local societal context which constrain and determine choices. Of course, they could also be linked to agency choices of ‘free will’—that is, making bad agency choices in life. Lived experiences are a result of the complex interaction between these national and individual societal hierarchies, the individual’s immediate world and that which goes beyond that—shaping the choices they make within these circumstances.

Structure/agency debates attempt to unpack the interaction between individuals (agents) and society (structures) not as separate, compartmentalised categories, but as interconnected and interdependent. The argument, however, is about the emphasis and the focal role of one over the other, very simply put, (i) that individuals are rational and can exercise agency to overcome societal and institutional barriers and seek opportunities that will enhance their life chances, and (ii) that starting from birth, societal institutions constrain life chances so that individual agency is



limited. Societal power relations and who has power and why are issues pivotal to these arguments and are reflected in policy making on equality.

Over time, sociologists have made the structure/agency debates into a fine art. Giddens (1993), for example, refers to a 'duality of structure' in arguing that individuals are constrained by society, but at the same time they are active in making it. The two are inexorably interlinked in his suggestion that 'social structures are both constituted by human agency, and yet at the same time are the very medium of this constitution' (Ibid: 169). In adapting a phrase from Karl Marx (Chap. 4) over 100 years earlier he does, however, focus on the importance of structure in that, 'The realm of human agency is bounded. Individuals produce society, but they do so as historically located actors, and not under conditions of their own choosing' (Ibid: 168).

Others, whilst recognising the importance of structure, also draw on individual agency as well. For example two other sociologists, Berger and Luckmann (1967) suggest that reality, as understood by the individual, is in fact based on the societal structures within which each person interacts. This argument may appear in the first instance as structurally bound in that individuals are seen as limited or constrained by societal structures and social forces which ultimately influence and therefore define the individual. However, in developing their argument, both Berger and Luckmann are also careful to acknowledge the importance of individuality, individual uniqueness and the ability of some to exercise a degree of independent agency.

To understand the interaction between structure and agency and how these reflect power relations, it is useful to look at general social patterns as well as particular individual actions and behaviours within specific social set-ups. Thus an individual might have particular characteristics which define them (e.g. entrepreneurship, determination) which enable them to transcend social boundaries, but essentially it is the general social discriminators of age, gender, and social class which have a bearing on their behaviour and life chances. Moreover, this becomes an especially strong bearing in poor communities of developing countries which provide our examples for this chapter. Lived experience is a social process which evolves and emanates from this interaction and is embedded in the individual's knowledge of how to manage any social constraints.

Take for example, small women farmers in The Gambia, a small ex-British colony in West Africa, who are often very poor, and responsible for feeding their families. Many are also responsible for domestic, subsistence cropping and attempt to grow the staple, rice, in swamp water. These women farmers usually work very hard carrying out the various processes of 'stoop' labour required in rice farming, namely sowing, transferring, weeding and harvesting the crop.

Disentangling what is happening at the societal level, however, reveals a number of structural limitations and ideological controls that combine to force the women to work so hard. For instance, the women rarely own their own land and are pushed onto the margins where their access to land is limited to the swamps which do not have the most fertile and advantageous characteristics for rice growing. The end crop is therefore never sufficient and women are forced to enter



into seasonal, waged labour, relying on male farmers who may own land. They may also diversify into other activities such as vegetable growing. Here too they are limited to doing so within the boundaries of the household compound land.

Essentially, therefore, no matter how hard the woman works or how determined she is, in a heavily patriarchal society where decision-making is in the hands of men, the structural barriers which deny her land ownership curtail her chances of making an adequate livelihood. She also remains threatened by the polygamous practices of marriage in The Gambia where even if co-wives do cooperate in some matters (e.g. looking after each other's children on occasion), she is ultimately responsible for raising and educating her own children rather than the father or the family group.

This example is, however, only that of a localised context. At a wider level, global markets, trading and inequality between sovereign nations play an important role in determining monetary values of local currencies, spending and earning power of individuals and overall national poverty and food crisis. The ideological context within which global societies operate is also decisive in analysing the relationship between structure and agency. For example, in free-markets led by 'western' societies where individuality and individual entrepreneurship are particularly valued, the notion that our lives are shaped by predictable, patterned behaviour determined by social structures is not something that is readily acceptable to many. It is of little wonder then that many would 'blame' the women farmers in The Gambian example for not being able to farm rice (the staple food) efficiently, thus creating dependency on external sources, or peanut cash-crop farmers for not being efficient or competitive enough to produce or process a crop that competes with giant, highly mechanised American peanut butter production. Is it the farmer or the ultimate power play of global inequalities that are to blame? This, of course, depends on the nature of the structures and their constraining capacity and whether or not it is almost impossible to break free from them? Thus, the structures that constrain Gambian women rice farmers are huge, those that constrain American peanut butter producers less so—even those who are relatively poor in relation to American society.

'Power' and 'powerless' embedded in social structures shape individual actions. Power is central to the understanding of everyday social relations and enables us to ask who the powerful are, what enables them to exert power, and how they influence individual behaviour. Such power is not always apparent and the individual may or may not be aware of who holds it. The small woman farmer in the Gambia, often illiterate, is unlikely to be aware of the power of rice corporates or the buying of land by the Chinese in a renewed, post-colonial scramble-for-Africa. They may also internalise the power relations closer to home in not questioning polygamous practice and male domination in determining all life chances.

Critical determinants such as money, the class or caste you are born into, the race and gender that you belong to, more often than not influence how powerful (or powerless) you are within a given society. The more powerful you are, the more you are likely to influence the dominant structures of your society (for example, through religious, education, and family institutions). As political, ethical or moral beings, it is important

to question how the shift from ‘power’ to ‘empowerment’, and conversely the related issues of ‘powerlessness’ and ‘disempowerment’ occurs, if it ever does. This requires an analysis of individual actions and how these emanate from, and result from interaction with, other individuals in the wider society. In turn, this necessitates a deeper, below the surface, exploration of structural equality and inequality.

There is little doubt that some individuals can successfully challenge the power embedded in social structures—fighting for example strong apartheid policies (Nelson Mandela), overt historical American racism (Barack Obama); fierce casteism (Dr. Bhimrao Ramji Ambedkar the ‘untouchable’ author of the Indian constitution) to name a few. Nevertheless, behind each successful individual from the minorities, there is a legacy of discrimination suffered by millions, clearly reflecting that most individual life experiences remain bounded by structural power relations of racial, caste and class hierarchies.

Climate change stories also require a structure/agency power relation analysis. For instance the use of fuel wood by the poor is often associated with significant levels of local deforestation leading to climatic consequences in developing countries (Agarwal 1986, 2010). People in many developing countries use fuel wood for two main purposes (i) domestic, such as for cooking, and (ii) for marketing and trading purposes. Depending on the number of people who cut down forests to obtain the wood, deforestation often occurs fairly rapidly and soon starts to become visible. Yet people go further and further into the forest to obtain the wood, causing increasing pressure on the forest.

Arguably, in this example, the individual has choices and can exercise agency on whether to cut the wood or not. They may not want to do so as often poor, landless people (particularly women whose responsibility it is to gather wood) rely on common resources such as forests and are very aware of their value and the cost of their deterioration and loss. Yet, especially those in developing countries carry on cutting wood because they have limited other resources.

To understand how individual lived experiences evolve over time and the interaction of structure and agency that make them so, requires a ‘sociological imagination’, a term associated with C. Wright Mills, an American sociologist who in 1959 suggested that there is a relation between individual biographies and historical change embodied in global and local societal events. A ‘sociological imagination’ is required to transcend the epistemological boundaries of everyday experience in order to establish the relationships to which he refers, and therefore exhibit a broader, challenging agency.

A fuller argument on this relationship is represented in Box 2.4. Mills demonstrates that even if we do not acknowledge it, or understand it, our individual biographies are not simply about ourselves or how we shape them, but an interplay of our individual selves and historical change that is embedded and manifest within societal structures as described at the start of this section, and well illustrated in the second paragraph of the extract. In Chap. 8, we develop further Mills’ concept of ‘sociological imagination’. With respect to climate change, we re-conceptualise it as a transboundary, social imagination that is generated through engagement of diverse lived experiences and between lived experiences and the sciences.

One way to assess this interplay is to consider how historical processes and change affect individual responses. Thus, for instance, India is undergoing transition from what was essentially a closed society based on internal markets towards trade liberalisation and wider engagement within global markets. In turn this has generated institutional, ideological and structural change which can enable businesses and entrepreneurs to thrive. Opening up to external global markets has also created a significant group of rich and super-rich Indians, and amongst these, a large number of rising middle classes whose behaviour has changed in that they are more demanding of 'western' style consumption such as large cars, fridge/freezers, gadgets and are acquiring a 'throw-away' attitude that is challenging to the environment. In fact, today in India this has raised many controversies regarding the effect of such large-scale consumption with respect to climate change issues.

#### **Box 2.4 On interaction between individual biographies and historical change**

Nowadays people often feel that their private lives are a series of traps. They sense that within their everyday worlds, they cannot overcome their troubles, and in this feeling, they are often quite correct. What ordinary people are directly aware of and what they try to do are bounded by the private orbits in which they live; their visions and their powers are limited to the close-up scenes of job, family, neighbourhood; in other milieu, they move vicariously and remain spectators. And the more aware they become, however vaguely, of ambitions and of threats which transcend their immediate locales, the more trapped they seem to feel.

Underlying this sense of being trapped are seemingly impersonal changes in the very structure of continent-wide societies. The facts of contemporary history are also facts about the success and the failure of individual men and women. When a society is industrialised, a peasant becomes a worker; a feudal lord is liquidated or becomes a businessman. When classes rise or fall, a person is employed or unemployed; when the rate of investment goes up or down, a person takes new heart or goes broke. When wars happen, an insurance salesperson becomes a rocket launcher; a store clerk, a radar operator; a wife or husband lives alone; a child grows up without a parent. Neither the life of an individual nor the history of a society can be understood without understanding both.

Yet people do not usually define the troubles they endure in terms of historical change and institutional contradiction. The well-being they enjoy, they do not usually impute to the big ups and downs of the societies in which they live. Seldom aware of the intricate connection between the patterns of their own lives and the course of world history, ordinary people do not usually know what this connection means for the kinds of people they are becoming and for the kinds of history-making in which they might take part. They do not possess the quality of mind essential to grasp the interplay of individuals and society, of biography and history, of self and world. They cannot cope with their personal troubles in such ways as to control the structural transformations that usually lie behind them. (*Source* Mills Chap. 1, *The Promise* page 5, cited from the 1959, 1st ed. and Mills 2000, 40th ed.).

Lived experience therefore evolves out of a complex interaction of power relations bound within structures of society where each individual may exercise varying levels of agency depending on their personal power positions. To deconstruct these relationships, a sociological imagination allows us to ‘think oneself away’ from the familiar routines of day-to-day life. It is only when we explore beyond the familiar patterns of everyday life that we begin to discover what underlying forces shape our behaviour as individuals. The process of uncovering the deviant thus ignites imagination further, and becomes even more alive as it allows us to consider what is happening not only in the mainstream, but on the margins of society and makes for a more inclusive account.

## 2.4 Lived Experience in Relation to Interacting Phenomena

As suggested in the section above, lived experiences are systemic, that is, they are made up of our encounters within the various interacting events and happenings that shape our personal histories and understanding of life. Climate change, for instance, brings differing experiences and reactions depending on whether you are located in affluent or developing countries, rich or poor, even though environmental degradation may affect us all.

Looking generally at the macro picture between the impact of climate change on rich and poor countries across the world, it has become apparent that poor countries are more vulnerable. Mendelsohn et al. (2006), for instance, argue that even if technology and resources should be directed equitably across countries to mitigate the consequences of their unequal distribution, other geographical factors come into play. For example, some poor countries, with low latitudes whose baseline temperature is already very hot, are finding that further warming results in pushing them even further away from the optimum, making them directly prone to climate change. Frankhauser and McDermott (2014) suggest an important reason why poor countries in comparison to rich countries are currently affected so adversely by extreme weather events and will continue to do so is because of an ‘adaptation deficit’. In general terms, there is a positive association between income and ability to adapt to climate change, and conversely a limited ability of poorer countries to adapt.

At an individual and household micro-level in developing countries, it is the vulnerable, especially women in poverty who are more likely to be threatened by climate change. For example, Irene Dankleman (2011: 1) quotes one woman:

*I have seven children. [...] Our house is collapsed because of the floods, and our crops—maize and sorghum—are destroyed. Hunger stares us in the eyes.* Mrs. Atibzel Abaande, 45 year, Bawku West District, Ghana.

She then comments:

For billions of women and girls in this world there are less [sic] possibilities, opportunities and certainties than for many men. More and more we see that changes in biodiversity,

environment and climate have an increasing effect on such gender inequalities. On the other hand: if women and girls get opportunities, they have proved to be important actors on the way to a more sustainable and just society.

Weather extremes and chaos that are associated with climate change are not gender-neutral but do affect women in poverty the most. They are particularly vulnerable all over the world because of several underlying commonalities which manifest themselves in powerlessness for individual women in their everyday lives. These include:

- (i) Poor women are less likely to own land or property yet are more dependent than men on natural resources for their livelihoods. Thus as 'free' (communal access) natural resources diminish, their chances of making a living are also threatened;
- (ii) Their power in society is limited by social, economic and political structures that constrain their capacity to cope, particularly if they are single, widowed, abandoned heads of households looking after their own or other children;
- (iii) They are often directly responsible for finding basic fuel, food and water supplies for their family in spite of limited mobility, particularly in the rural areas. Problems intensify when changes occur to essential resources such as water salinity, which accompany climate variability especially in coastal areas. When nearby potable water is affected, women have to travel even further distances often on rough terrain in search of alternative supplies (WEDO 2008).

Women continue to suffer large-scale social inequalities in terms of both material and non-material matters (see Branisa et al. 2014 for a fuller index of the institutional basis for gender inequality). The former include inequalities in land and property ownership as in (i) above, and inheritance rights. The latter include issues of decision-making within households, reproductive health, education and general human and political rights.

Thus, individual actions and reactions to climate change are shaped according to women's age, gender, class and other discriminatory factors. The local structure is, of course, embedded within the global context. For instance, we are increasingly aware of the global interconnectedness of biophysical climatic impacts, such as evapotranspiration and desertification. Changes to climate and climate-dependent biophysical environments are nowadays hard facts of everyday reality, but they are increasingly a pressing issue for developing countries throughout the world. In fact, it seems almost inevitable that the more economically poor a country, the more it is likely to be affected adversely as it has a lower capacity to cope with this change (IPCC 2007).

It is important, however, to remember that neither the poor generally nor women in poverty specifically are passive victims. A very strong global fight-back is evident in the way social movements around green issues have evolved. These include, for example, the Environmental Justice movement which began in 1982 in the economically developed world. Hundreds of activists and local residents began to protest against the expansion of a chemical landfill in poor communities of Western Country, North Carolina in the United States. The movement has since opposed and stopped many plans to turn communities into 'waste incinerator

dumps' and 'toxic doughnuts' where communities are surrounded by a full circle of toxins (Pellow and Brulle 2009: 435). Another historical example is from a developing country where the 'Chipko', tree-hugging women led a huge protest against the Indian government and private firms wanting to destroy forests in the North of India in order to make profit from logging—a movement that has now spread to other countries (Shiva 1989: 67). We discuss social movements as a countervailing force around climate change issues further in Chap. 11.

Through lessons learned from disasters such as floods, hurricanes, and the predictions made by climatologists, it is clear that social disintegration and increasing inequality accompanies climate change. As vulnerability increases, societal chaos results, exemplified by mass migration, disruption of kinship and peer support systems, displacement, loss of subsistence economies, conflict and warfare. Examples are found in instances of (i) migration arising from the recent drought and related conflict which have afflicted thousands from Somalia to Kenya, or (ii) with the millions who try to escape rural poverty, which has been intensified by environmental changes, in South America, Asia and Africa, by joining the ever-growing numbers in mega-cities (Raleigh et al. 2008). Therefore, the consequences of climate change and increasing inequality are far-reaching, not only across immediate neighbourhoods and localities, but also across wider geographical spaces and boundaries. It is important to note, however, that we (the authors) do not just attribute this bleak future scenario to climate change alone as we are always concerned with a multi-variable rather than a single variable explanation.

There are complex, interacting links between climate change and social phenomena of inequality, and its counterpart, equality. Arguably, climate change is also capable of providing new opportunities to bring nations and individuals together to create equality which will ultimately challenge existing inequalities. This is because in climate change everyone, rich and poor alike, is affected and we cannot escape our interdependence on the challenge that faces us. The sociologist, Ulrich Beck, who has brought the issues of societal behaviour and future global sustainability to the forefront, for instance, argues:

Climate change globalises and radicalises social inequality; it exacerbates inequalities of rich and poor, core and periphery, and at the same time dissolves them in the face of a common threat to humanity. Climate change combines with the inequalities arising from globalisation, decoupling the producers and subjects of risk. Remapping inequality in the age of climate change and globalisation therefore requires taking account of the unbounding of both equality and inequality, and an awareness of the end of the opposition between society and nature, one of the founding principles of sociology. (Beck 2010: 165).

He further argues (*ibid*) that whilst climate change has the potential to increase gaps and lead to social disintegration, a move away from nationalist principles and solidarity has the potential to create a global transnational solidarity in the face of climate change scenarios that impacts all humans. Uniting to tackle this has the potential to close divides and create global equality.

Climate change lived experiences can therefore be understood in relation to interacting phenomena of poverty, social positioning, equality and inequality even if both the rich and poor are affected. See Chaps. 10 and 11 for further exploration of 'interdependence'.

## 2.5 Lived Experience in Relation to Culture and Value

The significant role that cultural norms and value systems play in shaping personalities, societies and action has long been recognised in several diverse disciplinary strands of academia, including anthropology, psychology and health. Regarding climate change, it has become increasingly critical to communicate effectively with the public, where there is an expanding associated literature on the need to understand the critical role of human values and worldviews, the latter being the ways in which a specific society views and articulates its engagement with the world around it. (For a fuller review of the literature on this topic, see Corner et al. 2014).

Cultural norms and values are inexorably linked but there is a subtle difference between the two terms. Simply put, norms (which may not always be good practices) are internalised, learnt patterns that we see as acceptable behaviour and attitudes within a given society. Values are embedded in what we see as right or wrong within our society and include morals, ethics and beliefs. Our understanding and response to every dimension of global climate change is mediated through our cultural values. For example, Adger et al. (2013) show that climate change threatens many aspects of lives and livelihoods including lived aspects of culture, identity, community cohesion and sense of place. How societies respond to these changes and adapt to climate-related risks depends on these cultural dimensions.

In considering cultural values, Wolf et al. (2013) suggest that dominant approaches to climate change have usually centred on issues of vulnerability with an underrepresented focus on local materials and symbolic values. The authors define values as ‘transituational conceptions of the desirable that give meaning to behaviour and events, and influence perception and interpretation of situations and events’ (Ibid: 1). To develop value frames for their research, they concentrate on the diverse and nuanced subjective, intangible meanings people attach to specific aspects of their way of life. The authors argue that ‘values are crucial in shaping perception of climate impacts and adaptation to them. Distinct values, such as tradition, freedom, harmony, safety, and unity shape different interpretations and meaning of impacts, and lead to distinct views on how to adapt to these. Conflicting and competing values can act as barriers to house is collapsed because of the floodsadaptation. The findings [that is, of the study] imply that adaptation research and policy need to address values explicitly if efforts for planned adaptation are to be perceived as legitimate and effective by those affected by the changing climate (Ibid.)’. We endorse this point, while moving away from notions of linear influence and arguing for a circular relationship between lived experience and values in Chap. 11.

Disaster studies suggest that response and adaptability are located within the complex pre-existing political, social and economic circumstances that are framed by local cultural values and associated behaviours (McGilvray and Gamburd 2013; Irshad 2014). Take, for instance, the notion that disasters are gendered (Seager



2014; Zommers and Singh 2014). The Bangladesh Cyclone of 1991 exemplifies this in its death rate difference between men and women in a rigid patriarchal society both during and following the event. Chowdhury et al. (1993) show that, during the cyclone and flooding, more women than men died. The question then is why certain individuals died whilst others survived, and the underlying reasons for more female than male deaths. Were these skewed ratios a result of greater individual (biological) male capacity to challenge the cyclone through essentialist determinism and strength (that is, pure agency), or were they the result of something else embedded in the local context?

Chowdhury et al. (ibid) identify several reasons for the female: male death ratio in this particular cyclone, reasons that are primarily bound within the values and behaviours associated with societal structures and context of a Bangladeshi society, which in turn is influenced by Islamic religious values and codes of behaviour. They argue that, for a start, women were constrained by societal norms governing their dress and public behaviour which prevented them from responding to the crisis as quickly as the men. Many of the women could not swim as this is a public activity, not generally appropriate to female modesty.

They were further restricted by clothes that covered them from head to toe, with some wearing the outer veil of a 'burqa' which hampered their survival efforts. Because they were isolated and unable to move freely in public spaces, women were also reliant on men to both supply them with information as well as accompany them to a place of safety. In addition, women were not able to access public spaces as readily as the men and it took them longer to get to safety. In fact many of the women left their homes too late because they waited for a male relative to accompany them. This kind of evidence suggests that the structural constraints for women in Bangladeshi society are so strong that they are sometimes rendered powerless to exercise agency, to the point of death.

There are several other factors besides fatality that also reflect powerlessness for women in Bangladesh. Such powerlessness is exacerbated when disasters such as the cyclone occur. Flooding, for instance, puts a halt to any agricultural or livestock activity. It brings homelessness and dependency on relief. As men are also left homeless they are reported to vent their anger increasingly on women (Chowdhury et al. 1993; Ikeda 1995). Thus it is common that physical, sexual and emotional violence increases during and after a disaster whether in rich or poor countries. Japanese and Australian disaster management studies, for example show that there is often increased intimate partner violence and exploitation of single women, single mothers, and those otherwise unattached or living alone in economically developed countries (Yoko 2014; Sety et al. 2014). As Chowdhury et al. (ibid) further show, in Bangladesh, flood and cyclone shelters along with any relief centres throw women (used to sexual segregation) into sharing spaces with strangers where the men are more likely to sexually harass them. In addition, because they might find it more difficult to protect themselves, these shared spaces are particularly difficult for vulnerable women such as disabled women and nursing mothers.

Taken as a whole, it would appear that the underlying reason for greater female deaths during the 1991 Bangladeshi cyclone, as an example of a climate-related disaster, is that of the values and norms associated with the social context rather than of inherent, individual incapacity to deal with the challenge. Other research comes to similar conclusions. For example, a 2006 study of 141 natural disasters suggests that when men and women's economic and social rights are more or less equal, there is little or no difference between male and female deaths related to a disaster event. Female mortality is higher, however, where women have fewer rights than men (Neumayer and Plümper 2007). This type of conclusion can only be drawn by analysing underlying social structures (in this case, gendered behaviour of individuals) and the lens of specific cultural and value systems of the given context. Note that we also explore the notions of culture and values in Chap. 7, in relation to engagement on climate change.

## 2.6 The Lived Experience of Climate Change: Personal and Collective

The personal, as the above discussion suggests, is located within each individual's accumulated life experiences, and bound within their histories, societal structures, economic and political contexts. These individual accounts are important in that they enhance our understanding of specific contexts and our understanding of the reality through our place in society. This includes particularly those who are marginalised and have historically been hidden from history and denied voices such as the poor for whom changes in the climate often threaten livelihoods, and matter a lot.

Understanding how these individual accounts make up a collective is not just a matter of scaling up to larger numbers. Collective accounts of climate change usually centre around shared experiences of particular groups, coming together for mutual benefit in adapting and mitigating to threats or changed circumstances. The experiences include emotions attached to myths, beliefs, and indigenous knowledge particularly of the elders of the community/group.

For instance, the Bhils in Rajasthan, India, like many other world tribal groups worship the *Magra Baoji* (living mountain), represented by rock bones, river blood and tree and moss hair. Emotionally, they believe that the mountain also feels pain caused by mines, clearing and pollution. In a collective belief they thus oppose any action that threatens the mountain, woods and wildlife surrounding their homes (Snodgrass et al. 2013: 328).

Collective emotions often manifest in religious belief of the sanctified, play an important role in action and protest against perceived degradation and change. For instance, Hindus see the holy river (Ganges) and life-giver to many millions on whose water they depend as 'Mother Ganga'. There is a great reverence for the waters of the Ganga that goes beyond the Hindu faith and is understood by all Indians, whatever the religious denomination. This was brought home to me clearly when at a busy and overcrowded Delhi railway station a man occupied half

of a much sought-after bench by placing his suitcase on it. Everyone who asked him to move it was told that it contained a jar of Ganga water (Sanskrit: Ganga jal) which he could not disrespect by putting the suitcase on the floor. To my surprise people, recognising the need for reverence to Ganga jal, accepted this immediately and quietly moved away without any further comment.

The sacred river which is so closely linked to the nation's psyche is worshipped, loved and seen as a gift from the Gods, particularly Lord Shiva whose abode is in the Himalayas. Anything that hurts the Ganga hurts Indians. Thus development projects (hydro-electric dams, deforestation) which further lead to climate shifts such as altered precipitation, warming temperatures, and melting glaciers are commonly viewed as defiling the Mother. Devotees speak of love and loss of intimacy, identity and familiarity with the waters that accompany the evident changes in the river's appearance (Drew 2013).

Equally, there are collective implications to well-being and physical health as demonstrated by Canada's Inuit populations who in the face of altering local ecosystems find it increasingly challenging to travel or hunt on the land as they have done in the past. Inuit narratives of lived experiences suggest that the changes in land, snow, ice, and weather impact their culture and self-worth, causing anxiety, sadness, depression, fear, and anger (Wilcox et al. 2013). (Note, also, however, that the Inuit are not passive as they adapt to climate change—see Chap. 5, Box 5.1).

Environmental change, however, is not always seen specifically as led by climate-related events or disasters. Most indigenous peoples also ascribe meanings to the change through other social events in the community, such as value change in the community, population growth, out-migration, urbanisation, and land degradation. A study of two Quechua-speaking farmer communities from mountainous areas near Cochabamba, Bolivia (Boillat and Berkes 2013) shows that observations of climate change are interpreted as part of a cycle, which includes a belief in the return of some characteristics of ancient or mythological times, a reaction of natural or spiritual entities that people consider living beings (as with the Magra Bhoji above). This interpretation is a particular process of lived experience which contributes towards adaptive strategies. 'Indigenous knowledge' is the term that is often used to express the manifestation of this process of lived experience, which we explore further in Chap. 5.

We end this section on personal and collective meanings of lived experience with a selection of quotations from the participants in the Boillat and Berkes (Ibid: 6) study. They show how personal observations, elder lived experiential knowledge and their links to general societal change may explain climate variations for a group of people who probably cannot access academic scientific knowledge.

Our selection of quotations starts with some general observations on the weather especially the rains, and the observed changes that are occurring.

The weather has changed too much, there is more heat and more wind, there are crazy rains and it is harmful. Very clumsy rains come, and hail falls. The weather is not good like before, it harms the crops. (M, aged 80, Chorojo)

Before, the rains were quiet, smoother and very constant. It was not like now, these crazy rains that make rivers everywhere. There is hail as well. (M, aged 72, Chorojo)

In August, when Antonio [nickname of the Andean fox, *Lycalopex culpaeus*] goes down [to the river] and howls, it is a sign for a good year, if he howls normally it is a good sign. When it is for a bad year, he does not go down, he only walks on the hilltops, and he howls intermittently. (M, aged 37, Chorojo)

For the rainy season, there is an important secret to know if it will rain or not, in the stone.... Stones sweat like humans do. So, when it has a couple of flakes, like snow, that year will have a good rain.... In the month of August, you have to watch the stone's temperature.... You have to see its temperature, it attracts ....heat. Then when there is much heat, it will not sweat any more, the heat dries it up. (M, aged 70, Tirani)

Long-term predictions of good or bad years for growing crops are also based on knowledge of nature as it adapts to more chaotic weather patterns:

I look at the flowers of the muña [*Clinopodium bolivianum*].... It starts [to flower] in August, just before September which is the time to plant potatoes. So if flowers are well clustered, it is going to be a good year and it flowers abundantly.... If the muña flowers well, I can start sowing tomorrow, and next day, and over next day. (M, aged 42, Chorojo)

When asked what happened if the muña does not flower abundantly, the answer was:

... then [you do] not [have to sow] the day after the other. One has to wait for a week between each sowing. Then when the potato flowers, rainfall must come, but sometimes the rain gets lost, so the harvest might be lost, but I have the other plot that flowers later. (M, aged 42, Chorojo)

Finally in our selection, interpretation of climate change becomes linked to broader societal change and the wrath of Gods:

Before there used to be more respect [for our customs], now there is no respect, this is why the weather has changed as well. If it stays like this, things are going to be worse. (F, aged 57, Chorojo)

I don't like this change... there is more hail, more rain, unexpected cold or strong heat. This is due to people's bad lives, their infidelities, everybody behaves badly and therefore these things come. For example, in the community some people brought skulls to practise witchcraft. This makes the Pachamama [a regional Goddess] get angry and she does not want to provide us with food any more. (M, aged 24, Chorojo)

It seems that, as the 'brothers' (people converted to evangelical groups) announced: there will be heat, rains, and landslides; it seems that this is truly happening. This may be the Final Judgment.... Probably in the Bible it is like this, I am thinking about that. (M, aged 37, Chorojo)

Collective lived experiences of groups/communities are therefore made up of complex beliefs and interpretations located in the histories of their specific context. They are not merely an extension of the personal but are shaped by aspects of all kinds of embedded, internalised knowledge regarding climatic and weather conditions.

## 2.7 Lived Experience and Scale

Scale is of critical importance to both climate change and lived experiences, as summarised in this quotation from Adger et al. (2013: 112): 'Climate change is often portrayed as a global-scale problem: it often does not resonate with the

values associated with many traditional, ethnocentric worldviews, and may contribute to antagonism or cognitive dissonance’.

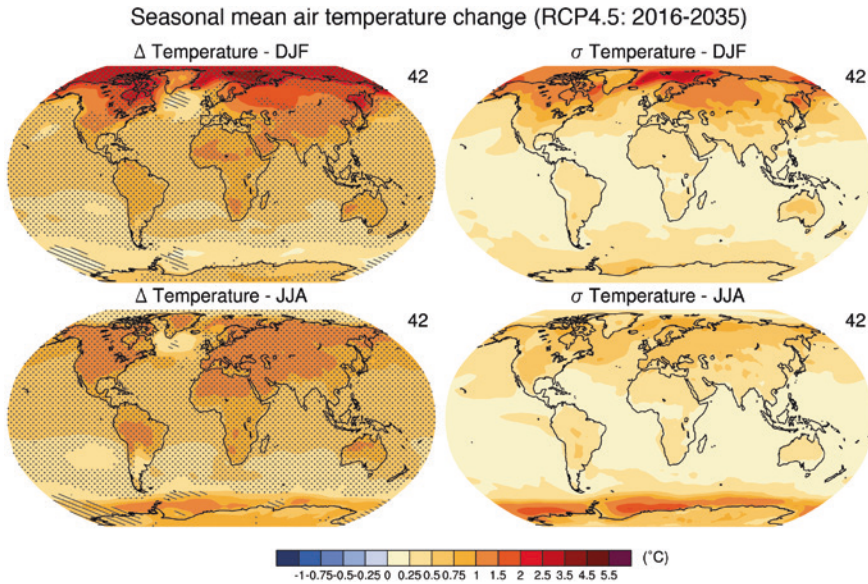
Implicit in this statement are at least two challenges:

1. A climate change analysis is usually at a global scale, offered by scientists who work with large data referring to spatial and temporal scales going back billions of years, whilst that of lived experiences are derived from and defined by people at a human scale probably with reference to themselves and immediate previous generations.
2. Bridging the gap in communication between climate change science and the lived experience of the public.

Firstly, in spite of increasing research attention to links between local and global scales especially from sociologists and related fields, climate change research remains heavy at a global top-down scale and is expected to span the many and varied boundaries that lie within and between global structures and local agency. Yet, scale matters (Wilbanks and Kates 1999; Gibson et al. 2000). Take the pressing problem of food production and distribution, for example. Whilst the assessment of food security and risk is often carried out at global, regional and country scales, for example with the Famines Early Warning Systems (FEWS) <http://www.fews.net/> or Food and Agriculture Organisation of the United Nations (FAO) <http://www.fao.org/home/en/>, there are many variations at local and household scales. These include variations in local landscape and topography which will effect local climatic variations, sometimes contradicting the global or more general-scale climate projections and models. At a country scale there is an enormous variability in the spatial distribution of national Government or international aid distribution, often depending on topographical elements and water availability. For example, in India, investment in the Punjab region of India for new agricultural technology bypasses other neighbouring states such as Bihar (Datta 1992; Fujita 2014). Equally, at a household-scale, prediction of risk and food security is dependent on complex interconnected factors of yield, entitlement, endowment and local agency.

Classifications of climatic zones were produced by the Greek Scholars Parmenides (fifth century BC) and Aristotle (fourth century BC). Fast forward to 1884 and Wladimir Köppen first published his classification, variations of which are still widely used today (Köppen 1936). Typically, these classifications have been presented in the form of maps of the known world. Today’s climate modellers also use maps to demonstrate what might be the case under given assumptions at a date in the future. Figure 2.1 is taken from the latest United Nations Intergovernmental Panel on Climate Change Report (IPCC 2013: Chap. 11, Fig. 11.10).

Turning to the second challenge, how does this and other, more complicated, modelling of the future climate relate to lived experience? The answer is, not a lot, for reasons ranging from difficulties in communicating the complexity to the public to the public not wishing to engage, which we discuss in Chap. 7. This issue extends, moreover, beyond the physical science basis as many contemporary modellers attempt to predict the human impacts of climate change in relation to vulnerability, risk and resources such as water, food and agriculture. These human impacts potentially link



**Fig. 2.1** Multi-model ensemble mean of projected changes in December, January and February (DJF) and June, July and August (JJA) surface air temperature for the period 2016–2035 relative to 1986–2005 under RCP4.5 scenario (*left panels*). RCP4.5 refers to representative concentration pathway 4.5, one of four greenhouse gas atmospheric concentration trajectories that are used by the IPCC. It is the second most conservative of the four trajectories); 2016–2035. The *right panels* show an estimate of the model-estimated internal variability (standard deviation of 20-year means). Hatching in *left-hand panels* indicates areas where projected changes are small compared to the internal variability (i.e., smaller than one standard deviation of estimated internal variability), and stippling indicates regions where the multi-model mean projections deviate significantly from the simulated 1986–2005 period (by at least two standard deviations of internal variability) and where at least 90 % of the models agree on the sign of change. The number of models considered in the analysis is listed in the *top-right* portion of the panels; from each model one ensemble member is used

directly with lived experience, and there is little doubt that such models provide useful and often essential information, but public engagement remains limited.

Climate change problems are multi-scale and, as Cash and Moser (2000) show, such challenges require a linking of science and policy across scales. They thus argue for a recognition of scale and cross-scale dynamics in understanding and addressing global environmental change. This argument can be carried over to a human scale of lived experience in order to communicate more effectively between the more general and bigger models and the local scale of climate change. Again, Chap. 7 explores further these issues.

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So what is the point of deciphering this maze of lived experience, particularly as unlike ‘pure’ scientific knowledge we cannot easily offer numbers and statistical



analysis of ‘lived experience’? Even if we attempt to codify it and create patterns using non-quantitative means, there is little doubt that there will be immense methodological problems (see Sect. 4.5.1). This has been shown in other subject studies where lived experiences have played a critical role in understanding issues, but have not always been logically acted upon being clouded in emotions. One example is domestic violence, a very personal and emotive subject that defies methodological logic (see for instance, Pratt-Eriksson et al’s (2014) study which attempts to incorporate Ricouer’s (2005) use of narratives to record lived experiences).

We can thus only hope to draw generalisations. Yet, it is important to narrate and generalise lived experience of climate change for three reasons, to: (i) contribute to an inclusive definition of climate change that considers it a social phenomenon as well as a physical one (Chap. 1, Sect. 1.2); (ii) understand the diversity of perspectives and interests on the challenge and why citizens, communities and countries respond as they do; (iii) shape public policy that is seen as legitimate by citizens. Insights provided can only add to existing knowledge on climate change and influence policy and practice in an inclusive way.

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