

# ADAPTATION TO, AND COPING WITH, CLIMATE CHANGE IMPACTS AND THREATS

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## ABSTRACT

The focus of this article is to examine the human adaptation to climate change impacts, and to understand the coping mechanisms with climate change. The impacts of climate changes, seen as threat and stressor, affect the ways of individual and community adaptation. Adaptation includes a wide range of responses including how people perceive, react and understand, that indicate how they behave in response to the problems. Psychologist can assist adaptive responses and help people in many ways to cope properly to changes. There is a need of new policy initiatives integrating psychological adaptation processes.

**Key words:** adaptation, climate change, policy initiatives, psychology



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## **Introduction**

In most instances climate change implicitly includes reference to the consequences of global weather pattern changes on local and global environments and ecosystems, that is, to climate changes and their physical environmental impacts, which are actually the more noticeable changes taking place in our environments. But there is another environment, where important and dramatic changes and impacts relating to climate changes are taking place, which is the human psychological, social, societal, and cultural environment. The climate change means a change of climate which is attributable directly or indirectly to human activity (Kolbert, 2006).

The Intergovernmental Panel on Climate Change (Intergovernmental Panel on Climate Change [IPCC], 2007) defined Climate change as any change in climate over time, whether due to natural variability or as a result of human activity.

The expected effects of climate change are also complex and far-reaching. Except activities to mitigate climate change, there is an inevitable need for urgent development system adaptation to climate change.

Dhoroty & Clayton (2011) have reported in their article that climate change is as much a psychological and social phenomenon as a matter of biodiversity and geophysics and has impacts beyond the biophysical. Also they contend that there is sufficient evidence to merit a response to the psychological impacts of climate change, and these impacts co-occur on multiple, simultaneous levels. According to them psychologists have an ethical obligation to take immediate steps to minimize harm, reduce disparities in climate impacts, and continually improve their climate-related interventions.

Climate change almost always refers to the perceived threat and unfolding environmental impacts of climate change as it is these facets of the larger phenomenon that are of particular relevance to public understandings and responses, psychological and social impacts, and planned change. These perceived threats and impacts are based on direct experience or indirect experience through media presentation.

## **Adaptation to climate change impacts and threats**

Influenced by biology, the concept of adaptation has been at the heart of psychological modelling since its origin in psychological adaptation. The adaptation is defined as the process of unceasing interaction between the individual and the ever-changing world within which humans evolve. The concept of adaptation is like a complex dynamic that articulates the different actions of the individual, as well as the different processes that enable the emergence of transformation perspectives (Jakubowicz, 2002).

Climate change is increasingly a substantially constructed and socially represented phenomenon, environmental problem, threat, and narrative of environmental and societal risk and change.

Different processes are involved in pointing the human response and have an impact on the way the threat and the impacts of climate change are peripheral and depends on the discipline for example social, environmental, cognitive, health psychology, also the extent of initiative individual or community level. Such phenomenon threats from climate change are rather complex and require the involvement of the knowledge of different sciences.

The Intergovernmental Panel on Climate Change (IPCC, 2007) defines adaptation as “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities”.

According to this definition of adaptation there are two criteria for adaptive responses, they must arise in response to the effects of climate change and they must result in beneficial outcomes, such as reducing adverse effects of climate change. Adaptive behaviour helps individual better take advantage of opportunities or responds to challenges from environmental circumstances related with climate change.

Adaptation refers to a wide range of responses individuals can make to difficult circumstances, including initial understandings, affective responses to situations, behavioral responses to situations, the process of selecting responses, and the reciprocating impacts of responses on individuals, communities, and the physical environment (Gifford, 2007; Stokols, Clitheroe, & Zmuidzinas, 2000; APA)

Within the context of psychological understandings and approaches to the threat of climate change, and at the level of individual functioning, it is important to underline that all psychological responses to perceived threat or changing environmental circumstances constitute adjustments and adaptations, and that these primarily reflect intra-individual appraisal, sense making, and coping processes, collectively referred to as ‘psychological adaptation’ (Reser & Swim, 2011; according to Reser, Morrissey & Ellul, 2012).

### **Coping with climate change**

In psychological terms, climate change is more of a chronic environmental stressor (Evans, 2001; according to Evans & Stecker, 2004), which is constant but uncertain, of possibly perilous consequence, and with a high dread risk, not dissimilar to that found for some ‘technological risk’ domains (Lewis & Tyshenko, 2009).

Underlining the importance of perception and interpretation of the situation that is perceived to be stressful, Lazarus and Folkman (1984) define coping or adaptive strategies as cognitive and behavioral efforts to manage stress and to know how to dispose of the necessary resources available to enable this.

Psychological adaptation in the context of climate change is related with stress and coping mechanisms. Adaptation of climate change is coping with global environmental problems and global environmental change (Homburg, Stolberg & Wagner, 2007). Global environmental changes and

the continuous threat of climate change are creating stressful situations. Because individual human cannot eliminate the stress from the situation, people develop particular coping strategies. There are many efforts to conclude and define psychological coping to climate change at personal level but all of them are unsatisfactory.

Coping with the impacts of climate change is a long lasting process that involves many intrapsychic processes that influence reactions to climate change. Psychological processes include sense making; causal and responsibility attributions for adverse climate change impacts; appraisals of impacts, resources, and possible coping responses; affective responses; and motivational processes related to needs for security, stability, coherence, and control.

These processes are influenced by mass media representation of climate change, formal and informal social discourse involving social construction, representation, amplification, and attenuation of climate change risk and its impacts. These psychological processes motivate intrapsychic reactions as denial, emotion management, problem solving, ignorance and behaviour control. Also there are individual and community behavioural responses. The culture and personality play a significant role in the variation of responses in coping with stress about the climate change.

American Psychological Task Force on Psychology and Climate Change (APA, 2009) spent significant considerable time and thought in attempting to achieve a more helpful and strategic integration of convergent perspectives within psychology relating to the psychological impacts of the threat of climate change, as risk perception, environmental stress, stress and coping, psychological adaptation, anticipatory coping, with the hope that this crucial body of psychological work might be more widely appreciated and utilised (Reser, Morrissey & Ellul, 2012).

### **Climate Change Impact**

In their article, Doherty & Clayton (2011) describe three classes of psychological impacts: direct, as acute or traumatic effects of extreme

weather events and a changed environment; indirect as threats to emotional well-being based on observation of impacts and concern or uncertainty about future risks; and psychosocial, as chronic social and community effects of heat, drought, migrations, and climate-related conflicts, and postdisaster adjustment.

Doherty & Clayton (2011) suggested that many factors could be potential mediators or moderators of responses to climate change. There are three main groups, vulnerability and resilience, media representation and information technology, and group of social and cognitive factors. The relative sternness of climate change impacts may be moderated by sources of vulnerability and resilience. Some processes could set people to be in harm's way, for example living in marginal, low-lying areas and having precarious, resource-based livelihoods, and limit their option for adaptation. Otherwise, adaptive capacities such as economic development, functioning level of mental health and, the reduction of risk and resource inequities, and engagement of local stakeholders in disaster adaptation activities are important to community resilience and the potential to adapt successfully in the aftermath of disasters (Ebi & Semenza, 2008; Norris et al., 2008; according to Doherty & Clayton, 2011). Exposure to information by modern technologies explain the influence of media representation and discover why climate change can have psychological impacts on individuals and communities that have no direct exposure on physical impacts. A sense of impact or alarm regarding climate change is likely to be both mediated by cognitive appraisals, such as estimates of personal risk and attributions of responsibility (Leiserowitz, 2007), and moderated by the responses of one's social referents. Contextual factors such as concern about economic issues or other immediate life stressors also moderate the importance and urgency of climate change (Pew Research Center, 2009; Weber, 2006; according to Doherty & Clayton, 2011).

Global change is as much a psychological and social phenomenon as a matter of biodiversity and geophysics and poses threats to mental health and human well-being. Psychologists have an ethical obligation to take

immediate steps to minimize the psychological harm associated with climate change, to help to reduce global disparities in climate impacts, and to continually improve their climate-related interventions through coordinated programs of research and practice that draw on the rich diversity of psychologists' skills and training.

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