# Part VI
# Global Health, Sustainable and Adaptive Approaches and Sustainability

# Chapter 26
# Health Implications, Leaders Societies, and Climate Change: A Global Review

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**Abstract** Perhaps the most recent difficulty for human beings across the globe is to comprehend climate change effects. It substantially impacts human rights, public health, and socio-economic benevolence. There are responsible leaders worldwide who are cognizant of its wide-ranging effects. They are undertaking appropriate initiatives (using their personality charisma/influence) to disseminate accurate information and increase awareness of global negative environmental effects. The ability of a community to anticipate, cope with, resist, and recover from the effects of weather events determines its vulnerability to climate change. The impact of climate change will be seen in the industrial and agricultural sectors, health, and quality of life of nations. Some argue that climate change would exacerbate disparities between rich and poor, minority, and politically marginalized groups. In contrast, others argue that these disparities will be worsened by shifting transportation, health, and energy infrastructures. For the sake of humanity, it is vital to take action to raise awareness of climate change. During the discussion of climate change, this chapter focuses on the health implications and the role of leadership in waking up the world's cultures. The literature review conclusions are open to various researchers and practitioners alike.

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## Introduction

Researchers concerned about climate change think that social psychological theories and findings are essential to solving some of the most pressing issues (Fielding et al. 2014). They stressed the relevance of the psychological process in dealing with climate change. Their research aims to highlight how modern social psychological research may benefit everyone. Since climate change social psychology is still in its infancy, social psychology models might give numerous theoretical and empirical techniques to combat climate change. Several notable scientists have shown that attitude can be affected concurrently by changing human cognition by aggravating awareness (Barnes et al. 2020). One may argue that if information processing is appropriately channeled, attitudes and beliefs can control people's reactions to believing that climate change facts are indisputable. If it does, it will help make the vast array of climate change findings theoretically coherent and orderly. Although this is a recent development, it is encouraging to see the breadth and depth of social psychology research on important issues related to climate change (Swim et al. 2011). It is critical to get the public's attention to promote public understanding of the importance of climate change. Leaders from throughout the world are making an enormous difference in this field. For example, Kjeldsen (2013) underlined the importance of presenting Former US Vice President Al Gore's climate change theory. Following his resignation as Vice President, he has dedicated himself to environmental conservation. The speech inspired the Oscar-winning film "An Inconvenient Truth." His stance explores that those efforts should be made to increase public awareness of man-made global warming. The world is looking to lay the groundwork for policies that prevent such rapid change. His work helps us understand the importance of social psychology and how climate change information is presented to the public and understood and reminds readers of climate change discourse. It encourages them to engage with governments and share their mandate. This chapter will develop social psychology leadership to understand the significance of this topic, which will help generate many approaches for further research.

This work contains four sections that make up this chapter; in the first section, we will discuss the connection linking human health and climate change. The second section discusses the emerging climate challenges. It will follow this section to highlight the importance of attention to climate change. Third, human sustainability and adoptive approach literature will be combined in the next section to grasp the human strategic perspective better. The final section will outline the importance of leadership in climate change social psychology.

## *Human Health, Awareness, and Climate Change*

Several scientists agree that human activities are warming the Earth's surface and causing other climatic changes by increasing the number of human emissions (Chen et al. 2020; Khare et al. 2020; Mikhaylov et al. 2020). Based on top modeling organizations' published data, the Intergovernmental Panel on Climate Change (IPCC) forecasts an increasing average temperature globally. Climate change can impact higher and lower latitudes; higher latitudes and land will grow tremendously (Ahmed 2020; Anderson et al. 2020). However, the land will become drier in many regions with mid- and lower latitudes. As temperatures rise in specific locations and the world's average annual rainfall increases, precipitation events such as floods can be more severe (Tabari 2020; Woolway et al. 2020). Climate scientists have predicted that a warming planet will enhance climate variability (Griggs and Noguer 2002). Anthropogenic increases in greenhouse gases are primarily to blame for the exceptionally rapid rise in global temperatures since the mid-1970s. The current warming has had a variety of repercussions on non-human systems, including increased mortality and psychological effects. Figure 26.1 reveals the World Health Organization's mortality ratio, which has been linked to climate change.

Experts discussed psychological difficulties in human health in two ways (Swim et al. 2011). Primarily, the effects of global climate change pose significant hazards to human health and well-being. Moreover, climate change is a multi-disciplinary challenge involving human, technical, and natural systems. A collaborative, inter-disciplinary approach is required, and human behavior can content social-cognitive methodologies. In this way, human activity affects climate change and its prevention. Thus, raising social psychology awareness is crucial to combating change and sustaining culture (Ayanlade et al. 2020; Hrabok et al. 2020). For example, psychologists participate in numerous essential concerns that could assist prevent this impact; hence, their efforts on climate change are more vital than other activities.

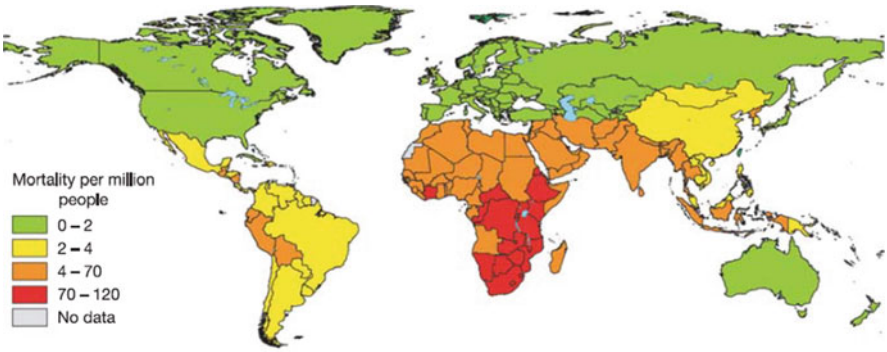


**Fig. 26.1** WHO estimated mortality (per million people) attributable to climate change by 2000. (Source: Patz et al. 2005)

In Latin America and Europe, climate change is seen as a human-caused drive consequence (Cushman 2011; Nelson 2021). While in many African and Asian nations, people's views of local temperature change are more influential (Douville et al. 2001). Other important aspects, including public awareness and risk perceptions, point to the necessity of developing nation-specific climate communication strategies. Besides increasing public support and involvement in climate change policymaking, Lee et al. (2015) require better access to foundational education, climate literacy, and knowledge of local climate consequences. Climate change is thus not a regional issue. However, long-term climate changes are challenging to detect in a local setting. However, because the outcome varies per country, it is necessary to have a global approach to grasp the more comprehensive picture. Droughts and floods, for example, are ignored in personal experience-based judgments at the local level unless they are recent and overblown. Therefore, the public also largely ignores the hazards and benefits of climate change.

An emotional response to climate change affects how people perceive the risk of climate change, according to Ojala's research (Ojala 2021). When it comes to this problem, the emotional responses of the public are likely to be mixed or nonexistent. According to this school, even humans and artificially created organisms cannot affect global environmental systems. As a result, cultural values and beliefs significantly influence people's attitudes on climate change. An example of how people's opinions shape their perspectives on climate change is illustrated in this discussion. Spreading knowledge about global climate change requires that people be well-versed in the subject matter.

## *Emerging Climate Change Challenges*

Climate depicts a region's temperature and precipitation distributions across time. Climate is less important to the average person. However, climate information is used for planning and decision-making by farmers and business people alike (Harvey et al. 2021). A human adaptation is more significant because it aims to understand that tremendous attempts to prevent global warming have a vast history of over 650,000 years. The difficulty of accepting the threat of climate change varies by individual abilities to comprehend these issues (Guile and Pandya 2018). Thus, ignorance is the most fundamental impediment to human awareness of climate change challenges and strategies to tackle them. In recent years, human civilization has come to appreciate the need to address this issue together with climate change (Rooney-Varga et al. 2018). Changes in the orbit of the Earth have affected the amount of solar energy absorbed by the planet. Supporting the findings of a recent study, data from NASA satellites show that human activity was 95% responsible for climate change in the early twentieth Century (Verma 2021). According to a study, the Earth's average temperature has risen by roughly 0.9°, owing primarily to the atmospheric emissions of carbon dioxide and other harmful gases (Levitus et al. 2012). Also, since 1880, ocean levels have risen to 20.32 cm higher, and they are

anticipated to grow by another 10 cm by 2100. This increase would happen due to glacial ice melting and sea-level rise caused by warming. According to NASA data, since 1993, this issue has lost billions of tons annually in Antarctica and Greenland (Ohring et al. 2005). Global warming, according to the majority of experts, is caused by the greenhouse effect, which is something we humans are responsible for.

Climate change altered temperature and weather patterns. Although extreme weather is not always a sign of climate change, it is a gradual change in average and extreme temperatures, precipitation, and other features. Individual instances are commonly misattributed to climate change. Pattern recognition in uncertain circumstances is affected by people's expectations of change or stability. Hanlon et al. (2021) argued that climate change had worsened the impact of extreme weather events that caused a usual weather condition, including flood and drought. Torres et al. (2021) noted that variations in water temperature, ocean acidity, and sea-level rise are all part of the impact of climate change. From both physical, psychological health perspectives, many researchers investigate how climate change contributes to hydro-meteorological and climate-related disasters and the resulting health effects (Hwong et al. 2021; Lewandowsky 2021). They also look at ways to reduce climate change at a particular time.

Generally, scientists agree that climate change is a severe challenge nowadays (Gross 2018). Climate shifts have been observed on our planet, and we have learned to live with them. Plantinga and Scholtens (2021) found that the Industrial Revolution was one of the critical causes of this climatic shift. It is contributing a significant amount of Greenhouse Gases emissions to the atmosphere. Consequently, climate change is "a change in global or regional climate patterns," according to Worldwide Fund for Nature. De La Fuente et al. (2017) asserted that the primary source that causes climate change is the consumption pattern of human's daily needs. Global warming is a critical issue, but it is also a source of concern. However, there is often a misassumption on confusing climate change, and global warming, distinctly global warming is one of the results of climate change.

This global problem can disrupt the global socio-economic and environmental. The impact of global climate change on Asian economies has been particularly severe, posing numerous challenges to long-term livelihoods in these regions (Lata and Nunn 2012). Also, it affects Pacific countries' tiny low-lying islands (Campbell and Barnett 2010). These current and projected impacts will have severe consequences for Pacific communities, including dwindling freshwater supplies, deteriorating agricultural areas, and risks to houses and other community infrastructure.

The existing literature and knowledge on climate change have been increased. Nevertheless, the reality remains that we are currently in an abnormal climate phase. Tackling these issues also required changes. A shift in an individual's character is essential since it impacts economic decisions like what people buy and spend their money. Changing one's daily routine and appreciating the importance of simple actions can reduce the problem (Reisch et al. 2021). As the first generation to experience climate change, we must eliminate pollution to make the world a better place for future generations. Considerably, climate change and its consequences have become the major problem that human society is experiencing (Torres et al.

2021). Climate change and the natural disasters it caused are probably the product of human activity. People are familiar with a global warning which they often confuse with climate change. However, global warming is merely one of the consequences of climate change.

Furthermore, past evidence exhibits that climate change causes an increasing frequency of extreme weather. As a consequence of the long-term tendency, each location will experience a change in its particular climate. Indeed, many of the world's extreme weather events occurred recently, including certain astronomical events, abrupt weather changes, cloud bursts as well as ocean circulation weather events. In addition, several incidents occurred worldwide recently, such as a strong breeze or an unexpected significant snowfall. The most basic preparations are needed to adapt to climate change and reduce the risk of disasters. Hence, we must minimize the damage caused by human activity in the process. Additionally, when a specific natural disaster cannot be prevented or mitigated by human conduct, we must learn to respond to the emergency and minimize damage.

## *Human Sustainability and Adaptive Approaches*

If the focus is a methodological innovation in resource management, then adaptive management to execute policies as experiments is recommended (Walters 1986), known as strategic adaptive management (Holling 1978). In addition to new means, the adaptive approach implies altered aims. As the name suggests, this approach prioritized learning in management. In contrast, traditional methods emphasize the opposite (Lee 1999). The effectiveness of strategic planning as a public policy technique is evaluated by assessing its intellectual, technological, equity, and practical strengths and limits, as well as its limitations. Lee (1999) discovered three conclusions after conducting extensive research successfully. In the first instance, adaptive management is more significant as an idea rather than a practical method of getting insight into ecosystems' behavior. It is related to humans' use and occupies, at least in the short term. The second point is that adaptive management should only be utilized once the opposing parties acknowledge the adaptive approach. However, this technique was never used in this way in the past. Instead, it has been misused due to a lack of understanding of the concept. The last conclusion of Lee (1999) was that efficiency and effectiveness in social learning and adaptive management make them possible, which can be considered strategically important. According to Dawson et al. (2021), in the context of governance of the ecological system, adaptive management is highly regarded to be employed. These challenges highlight leadership's critical role in ensuring that adaptive management is successful. The top management's main character is an apparent disposition. Leaders typically control the flow of benefits resulting from harvesting from or protecting the ecosystem. They often play a critical role in motivating those whose cooperation is required to gather information, analyze, and diagnose surprises.

In socio-ecological research, spanning five-time intervals over 16 years in Papua New Guinea determine the fundamental characteristics of a long-lasting traditional adaptive reef management. In their assessments, resource users identified high levels of compliance, strong leadership and social cohesion, and participatory decision-making among community members as key features of the rotating fishery closure system (Cinner et al. 2019). Cinner et al. (2019) struggled to understand the community's perception toward traditional management and how this approach impacts and improves their lives. The researchers conducted household surveys. They followed a mixed-method technique to determine and investigate local people's beliefs. The three most important characteristics of this long-lasting adaptive management system were revealed. These terms were named compliance, leader, and societal integration, and participative decision among community members was a notable three pillars of community development. This quest was an outcome of early research that showed that there are still significant uncertainties despite the widespread application of adaptive management.

Moreover, it was unclear how it could contribute to a long-term positive result for humans and natural systems (Keith et al. 2011). Numerous research in the context of adaptive management found that adaptive management outcomes have found that they are associated with low costs, flexible, and polycentric institutions. Research suggests these relationships allow solid social networks to foster participation and experimentation, debate, learning, information sharing, resource monitoring, and user support for implementing rules (Bardsley and Sweeney 2010; Folke et al. 2005). In contrast, these essential characteristics have been developed from theoretical or analogy research, not from the viewpoint of the actual resource users. Insights into local views can shed light on critical socio-cultural-political-economic elements vital to the effectiveness of management efforts in a specific setting (Adams and Sandbrook 2013). However, this is challenging because the first step ensures that leadership is not culturally relevant or inequitable. Political leadership legitimacy and public appeal are the foremost critical in social development and cohesion. It is necessary to assess the legality and acceptability of governance (Bennett 2016). We do this because it is essential to ensure that governance is neither culturally inappropriate, inequitable, nor distant from the public interest at the end of the day (Lecuyer et al. 2018). Therefore, a better understanding of critical traits that are greater efficiencies derived would significantly impact what is derived from the residents' point of view. Leadership strategies may be beneficial in shedding light on the angel of practices and processes in which outsiders have no clear opinion about or conflict with local perspectives. Consequently, this argument is especially valid for adaptive management systems built on long-term customary practices (Cinner et al. 2019).

Individuals worldwide have retrieved information and other intellectual benefits in this digital technology era. As digital technology continues to develop, one of its most essential characteristics is its multimodality: the capacity to incorporate script, pictures, music, and even haptic input, which enable humans to continue to get an overflowing and engaging experience rising availability of digital systems (Jiang et al. 2021). Making the previously inaccessible apparent is a significant possibility

provided by digital advances. In addition, digital technology's role in public awareness is impactful. Technologies are possible and valuable information tools for individuals to connect with environmental impacts in more precise and engaging ways. It enables them to visualize something that would otherwise be invisible to them, such as their environmental impact (Fauville et al. 2016).

In today's ever highly dynamic situations, as the corporate environments and business practices frequently and quickly change, leaders must think creatively to challenge the unforeseen problem. They should be able to adapt quickly to those changes. The ability of leaders to quickly modify information technology strategies is essential (Heifetz and Laurie 1997). The modern world of labor has been shaped by a slew of technological, social, and organizational developments (Brem and Voigt 2009). The digitalization of employment, as well as the gig economy, are examples of this trend.

Moreover, organizations can now manage data in advanced and innovative techniques thanks to a wide range of new technologies, such as sight and monitoring devices (Brynjolfsson and McAfee 2014). Nowadays, it has become relevant in a tumultuous environment, including erratic competition and technology conditions. As a result, Trough digital transformation, leaders can improve their ability to transition from their current state to the desired future state. It is often about uncovering and digitalizing items in a new critical technique that can only be done with digital technologies (Dunn 2017). Such essential intelligence has already been generated everywhere and requires consistent new tools and approaches in human sustainability development. A crucial difference from the previous practices is that this collection of procedures must successfully accommodate the temporal gap between author/creator and digitizer/analyst of the material depicting the place.

Furthermore, literature on digital learning and skills needed for enterprises' digital transformation is scarce. Sousa and Rocha (2019) revealed that effective digital transformation of businesses based on the most recent developments in skills becomes the key objective of the research. The perspectives of individuals on issues encountered by organizations and prospects for emerging disruptive businesses are also becoming relevant. An empirical study was conducted to determine the necessity of digital skills for a successful transformation such a range of advanced digital technology. Digitalization was identified as an essential skill. Mobile technologies, tablets, and smartphone applications becoming increasingly popular among employees were identified as the most critical digital learning contexts. Sousa and Rochas' analysis suggests that firms should reassess their strategy in light of the challenges posed by digital transformation. Because of this, we may conclude that the obstacles and opportunities for new disruptive firms and individual perception and recent trends inabilities are directly associated. Trenerry et al. (2021) assessed the positive correlation between opportunities for new disruptive businesses and new trends in skills. Therefore, the organizational digital transformation's unfavorable impressions require responding to new opportunities and new trends in skills development.

Indeed, digital learning is typically haphazard and unplanned, regardless of the context. It can teach learners critical thinking to solve complicated problems,

collaborate and work in a team, interact with others effectively, and have independence in the learning process (Sousa et al. 2019). According to another study's findings, taking advantage of the potential and embracing the latest trend in skill development can assist firms to thrive and expand in the future (Sousa and Rocha 2019). Concerning human sustainability and adaptive approaches, these two arguments are helpful. Johnson and Wetmore (2021) asserted that changes in the way people think about technology's impact on society are needed. In a qualitative study focusing on the social robot. Khaksar et al. (2021) outlined that human perception of technology use is the greatest obstacle to technology acceptance. This hesitance of technology acceptance may delay the development of adaptive solutions to ensure that the general public reaps the benefits of technology. Human life could benefit significantly from technology if people were more accepting of the idea of incorporating it into their daily routines. Adaptive and sustainable human development can then be achieved by applying technology. Technologies can play a vital role in changing human perception, bringing new and rising client categories and diverse cultures into the global marketplace. The uncertain economic and increased customer aspirations and the pace change of market demand also become common, triggering higher service quality demand. Since digital transformation is becoming an integral process, many organizations and company are struggling to manage it. Increasing numbers of high-level employment have emerged in the job market that demand flexibility and problem-solving skills (Markowitsch et al. 2002). Despite increasing research, it is necessary to produce work that provides a different description of "perceived problems." Nevertheless, the research agenda in the context of digital transformation in companies should consider this matter (Sousa and Rocha 2019). Furthermore, it could help remove barriers to human perception (Lata and Nunn 2012) because it hinders environmental awareness (Bennett 2016).

## *The Role of Leadership Is Social Psychology during Climate Change*

Lawrence et al. (2010) raised a question about choosing a particular topic while conflict between conscious act and participation for general public interest among politicians can be understood from history. However, the understanding of the dispute is still limited, and researchers do not yet know how common or rare it is. Lawrence pointed out that an observer should give a general answer to a theory's public inquiry. Further, the theorist should be prompted to ask more particular queries on these conflicting ideas' significance. Besides, the theorist needs to generate a broader understanding of the best ways to deal with it. The future of social psychology, particularly concerning climate change awareness, should be considered in this field and the role of leadership. As part of this discussion, it is essential to consider how political leaders can raise public awareness and what tools they have at their disposal.

Sousa (2017) examined talents and their importance to organizations as strategic areas of human resources education. However, internally within corporations or academic institutions, determining and honing one's skills can be difficult Abbas et al. (2022a). Therefore, it was efforted to look at human resources management abilities and how humans should be educated throughout this view. Sousa's point was that university courses in human resources management need to concentrate on these abilities. Sousa's study investigated whether or not they are delivered in the learning environments of institutions of higher learning. Leaders need to have the ability to employ social cognition to knit their organizations together. They can use their social identity and social exchange to inform, build, and choose social progress as a leader (Abbas et al. 2021c).

In recent decades, authorities, policymakers, and governments worldwide have emphasized democracy, the Sustainable Development Goals (SDGs), and their sub-goals. Democracy has been broadly embraced worldwide; society's leaders have played a more prominent role in directing state affairs (Harvey and Novicevic 2004). Moreover, leaders worldwide are well aware of the need for sustainable development and actively participate in achieving these goals (Grover et al. 2021). Global leaders are active on digital media (Grover et al. 2019). While social media is a worldwide phenomenon, it can be used for information awareness because it is widely used (Aswani et al. 2018). Sousa and Rocha (2019) found that literature on digital learning is littered with conflicting interpretations of the phenomenon. Sousa and Rocha begin their investigation with the definition provided by academicians. Many people believe that all forms of digital learning, including smartphones to computers, are unstructured and undefined. This argument means every day learning from digital platforms is related to their work, skills, or learning interest (Abbas et al. 2020).

In contradiction, the learner's perspective is never planned is also believed, as Tan and Andriessen (2021) discussed that social interaction is thought to promote personal growth. This learning happens because in-group and out-group affiliations can be strengthened through communication amongst like-minded users. However, communication between people with divergent views can weaken group identification (Yardi and Boyd 2010). Connections are within a user's group, whereas out-of-group connections are made to welcome outsiders to come under one umbrella platform of the organization (Iyengar and Westwood 2015). When two people or more are debating, interacting, and exchanging ideas, one gives their self-perception a higher rating when the other person is opposed to it (Lee 2007). As a result, each person challenges themselves to make an excellent idea in the framed discussion. As a result, they grow personally and intellectually as they challenge their brain to think beyond. Groups of people who have the same political values congregate (Kim 2015; Lee et al. 2014). Voters who have little interest in politics are ideologically moderate, making them easy targets for political polarization (Lawrence et al. 2010). Whether digital learning is beneficial for personal or professional development, both arguments are there. However, we can rest assured that those who share our views will band together to establish a supportive social network.

To believe that leadership psychology has the most significant impact on perception, trust, and societal cohesion at this point. Leadership is the most important topic of diversity management (Abbas et al. 2021a). This topic has generated enormous research submitted to the most significant societies globally (Abbas et al. 2021c). Many of these topics were brought into the organizational sphere, where individual differences are almost manageable (Abbas et al. 2021b). In organizational leadership psychology, this debate is critical. Hence, this study relies on relevant research and aims to keep the existing literature up to date. Many scholars have attempted to understand better the relationship between flow and effective leadership and employees' attitudes (Abbas et al. 2021d; Smith et al. 2012). These scholars have raised a debate over how positive psychology manifests itself in political leadership is needed.

The world has witnessed how political leadership, the media, and other digital channels were leveraged to the fullest extent to raise public awareness (Saud et al. 2020). As a global leader, Al Gore is likely the most committed to increasing the general understanding of environmental concerns through public appearances (Pielke and Sarewitz 2002). Al Gore, who was 28 years old when he was elected to Congress in 1976, has been an outspoken proponent of environmental issues, including hazardous waste and climate change. He uses his social identity as one of the Democrats' Greens to promote social cognition for climate change issues, a critical success for his party since the 1980s (Gore 2017). In addition to Al Gore, Pakistani Prime Minister Imran Khan is one of the world's most recognized leaders actively participating in public awareness campaigns about the dire repercussions of climate change (Rubbani et al. 2021).

Rabbani and colleagues conducted a Critical Discourse Analysis of Pakistani Prime Minister Imran Khan's political speech on 27 September 2019, as part of a content qualitative approach. Humans construct civilization and, when gathered together, become nations; they said in their concluding remarks. Role of leadership in social constructions in this scenario becomes more pertinent since climate change substantially impacts Pakistan's ability to secure its supply of electricity, water, and food (Hussain et al. 2020; Qureshi et al. 2016). Climate change is a significant problem for Asian developing countries, as dreadful as its effects are. However, nothing has been said (Hossain et al. 2020). Climatology change Indian scholars have felt the heat as climate change, and its inevitable symptoms have become a part of people's daily lives (Das and Ghosh 2020). China's widespread worry about global warming and climate change is relatively lower. According to a recent cross-nation study, the level of concern varies widely among Chinese residents, between provinces, and across coastal and inland locations (Liu et al. 2020). Arguments suggesting social psychology is significantly dependent on what is spread were built using the literature cited above. Social media is a widely used technique for influencing people's beliefs and behaviors. That kind of straining tool is designed for people who have the power to sway the thinking of others.

## The Rationale of the Study

This chapter, which fits the book's overall theme, aims to raise awareness of global health concerns, leadership societies, and climate change. Modern organizations make it possible to raise awareness about social psychology's enormous and never-ending subject matter. Moreover, politicians should strive for greater public welfare to make this achievable. It is also critical to understand that political leadership and digital media significantly impact social psychology. Therefore, this chapter's goal is to introduce pertinent information and arguments into the debate so that researchers can begin to think about it in the context of their research. The researchers can use the best literature to combine ideas that are not unfamiliar, attainable, and simple to comprehend into a cohesive entity. Human progress is inevitable if political, organizational, and digital media leaders work together. A public awareness and involvement process for more outstanding social goodwill begins due to this method.

## Materials and Methods

This chapter used literature from throughout the world to support a point (Snyder 2019). Understandable and straightforward ideas can be generated by synthesizing world literature (Baron et al. 2017; Barron et al. 2012; Wyborn et al. 2018). Literature synthesizing means combining two or more points in their most basic form. Instead of describing each source's main points in detail, it is more beneficial to blend the ideas and conclusions of multiple sources. Researchers can do this by comparing and contrasting the facts gathered. Thus, the reader will discern when information from different sources converges and diverges. Researchers could benefit from conducting a literature review and a synthesis to form this idea (Harvey 2014).

## Results and Discussion

There are five major components to this study, summarizing several reviewed studies. For the beginning, this study presents the outcomes of scholarly investigations that looked at knowledge dispositions. Then, we include behavior components of environmental literacy—human psychology of individuals and prosocial behavior about climate change and its effect on human health. Social perception is paramount in group cohesiveness, social psychology, and public awareness domains. It becomes more complex and time-consuming when countries engage in the process, which necessitates greater attention and optimization of approach. The issue of how climate change education and awareness should be implemented has become

increasingly difficult. Climate change occurs in this context, yet individuals' perceptions are hazy. When confronted with a crisis, people's conduct might be challenging to predict because of their complicated nature. Public education has long been expected to help the general public better understand environmental science and physical systems and processes.

This context is outlined that the climate change issues are inseparable from individual psychological and external determinants. The focus should target how individuals or groups interact with the environment in any organization or community. This dimension encompasses both leader and follower behaviors that involve an inevitable psychological, affective, and cognitive process. To deal with climate change, humans need to raise our level of consciousness, and there is no other way to do it. As an individual, we have our way of tackling this matter. As a group, we can combine our ability, competencies, and virtue to make a powerful instrument to mitigate climate change. Prerequisites such as recognizing and analyzing environmental issues and evaluating them are part of this dimension. For micromanagement of individual perceptions to be possible, political leaders must encourage the participation of organizational leaders for worthwhile purposes. All essential questions, arguments, and strategies formation and assessment to address various environmental challenges must be discussed at the micro-level to realize public accountability. Environmentally responsible behavior should be promoted by the individual community and business (Fenitra et al. 2021a, b). Adapting this particular behavior, our new way of living would minimize climate change-related issues.

Besides, climate change has indirect health implications, such as reduced food and water supplies and reduced agricultural yields caused by social, economic, and political disturbances. Regional winners and losers will be due to climate change on cereal grain yields, with a 5–10% increase worldwide undernutrition. As a result of climate change, the world has become more unstable. It is thought to be the root cause of various humanitarian and global health crisis concerns such as catastrophes, conflicts, migration, and refugee flows. When discussing climate change, there must be a focus on the microaspects of human health, such as food shortages and basic sanitation. As long as they are presented correctly, public awareness initiatives can have a long-lasting impact. Climate change-related health issues may necessitate research into rapidly disseminating information about them through mass media. Thus, if everyone participates personally, social media can take on a central role in our society. For example, social media platforms to spread awareness about climate change are essential to make humans more resilient and adapt to this problem. Suppose these efforts are recognizable to the public to raise awareness about societal concerns and inspire people to take responsibility for their actions. The substantial impact of climate change on human health, life quality, social justice, and political landscape is enormous and should be counted. The table below presents significant findings from current and prior literature for a critical examination (Table 26.1).

Overall, social and climate change-related health issues affect the entire community. Thus, building more understanding about its severity in public could bring responsibility to address them. More comprehensive public education will improve people's lives, and governments will devote more resources to various adaptation

**Table 26.1** Impact of climate change and its dispositions

| Primary area | | Key findings | Source |
|---|---|---|---|
| Social | Shortage | Food insecurities | (cf. Qureshi et al. 2013) |
| | Crisis | Increasing health inequalities | (cf. Mazhin et al. 2020) |
| | Scarcity | Water shortage | (cf. Omer et al. 2020) |
| Environmental | Catastrophes | Political discussion | (cf. Pierrehumbert 2005) |
| | Air Pollution | Multifactorial stress intensity | (cf. Zandalinas et al. 2021) |
| | Drought | Weather-related uncertainties | (cf. Mukherjee et al. 2018) |
| Economic | Global | Global climate change | (cf. Gough 2010) |
| | Regional | Increased poverty | (cf. Hallegatte and Rozenberg 2017) |
| Political | Prevention | Regional Rifts and Confits | (cf. Koubi 2019) |
| | Emergency | Lowering Relocations Trends | (cf. Hugo 2013) |

strategies. Scholars play an essential role in creating intelligence and knowledge to grasp this problem from the ground up. Instead of constantly disseminating information, academics should focus on formulating new approaches to problem-solving, including modeling. Often practitioners experience difficulty implementing strategies based on the knowledge produced by scholars only. Scholars, practitioners, and politicians should work together to develop realistic solutions to this problem. For example, GIS modeling can be used to examine how plant disease affects rainfall and vegetation, for example, by major research institutions. Techniques like these can be used across the board to defend against natural disasters and improve the detection of infectious disease sentinel cases. Modeling can be used to integrate information effectiveness.

According to a recent study, limiting water supply in densely populated places on the African and Asian continents has another fatal effect. Table 26.2 shows data on per capita accessible water in these two continents' most notable countries, which are severely impacted and where a water shortage could be catastrophic in 2025. This water shortage might jeopardize these countries' health, economic, political, and social lives, which is just the beginning. The gravity of the challenges raising awareness about these concerns could have far-reaching consequences beyond human comprehension.

The authors of this chapter feel that a procedure that requires community involvement and participation using advanced technology and a large-scale public awareness campaign is urgently needed. Because they have to experience the effects of climate change quickly, the community should have vital supplementary knowledge. This approach will also make it easier for people to comprehend, apprehend, accept, and cope with implicit measures. The world's leaders are currently aware of rising hazards to human health due to the recent discovery of COVID-19. It is a startling occurrence that has sparked widespread awareness debates in informal conversations among the general people.

**Table 26.2** Water availability in 1995 and 2025

| Countries of the world | Per Capita water availability 1995 ($m^3$/person/year) | Per Capita water availability 2025 ($m^3$/person/year) |
|---|---|---|
| **Africa** | | |
| Algeria | 527 | 313▼ |
| Burundi | 594 | 292▼ |
| Egypt | 936 | 607▼ |
| Ethiopia | 1950 | 807▼ |
| Rwanda | 1215 | 485▼ |
| Somalia | 1422 | 570▼ |
| **Asia/Middle East** | | |
| Bahrain | 162 | 104▼ |
| Iran | 1719 | 910▼ |
| Jordan | 318 | 144▼ |
| Qatar | 91 | 64▼ |
| Singapore | 180 | 142▼ |

Source: Zakar et al. (2020)

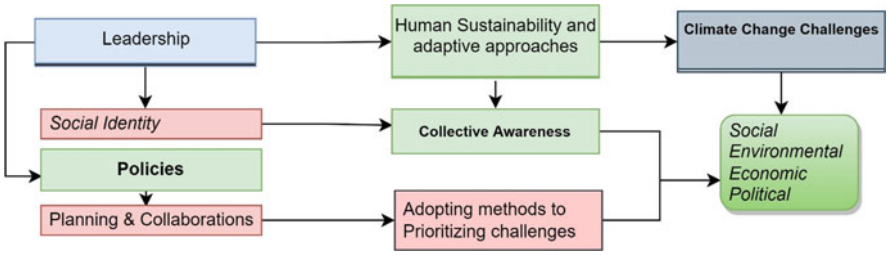


**Fig. 26.2** Generating climate change initiatives: self-concept

On the other hand, experts on climate change have a history of seeing international society's awareness address global concerns. The pandemic's impact on the economy and global health was profoundly devastated. Leaders worldwide took advantage of the opportunity to raise concerns that climate change concerns are being disregarded. Despite this, climate change is still not receiving the attention it deserves, and few are speaking out strongly against its severity. We believe that leaders should also deploy their social identity and exchange to motivate their countries to take climate change seriously. Social media platforms, digital media, and print media should join forces in a comprehensive awareness campaign to foster social cognition against climate change challenges. Environmental catastrophes will not only affect the health and well-being of individuals. However, they will also substantially impact the global food supply and migration concerns due to climate change. We have proposed a conceptual framework for further research on improving social cognition through public education campaigns and communication awareness appeal as a change-agent social domain to address these issues (Fig. 26.2).

## Limitations of the Study

In this chapter, we examined how Al Gore, one of the world's most recognized advocates of climate change education, has appeared notably in leading roles in developing social psychological awareness. However, the theoretical limitations of this study's focus on climate change's impact on his social identity have profound implications for researchers. This chapter covers many topics related to change agents that can be dangerous to global environments and call for action.

## Recommendations

Because of the gravity of climate change, the authors of this study propose that COVID-19 awareness could be used in a social awareness campaign (Qazi et al. 2020). Research on social cognition (**Abbas et al. 2022b) could benefit from this study concept in the future, particularly in raising public awareness about climate change.

## Conclusions

A wide range of literature explains how climate change is a multi-faceted problem intertwined with a wide range of social, political, economic, and global challenges. When the goal is to communicate the same vision to others, the task becomes more difficult. History of leadership theories is developed around the idea that only a few people could think of and lead others through such difficult times in human history. Since the problem of climate change is complicated and has regional and global ramifications, as a result, a global strategy has been clearly and convincingly required. A snowball effect will have a long-term impact on society and individuals due to this solution's use of identity. Educating others is the first step in this counseling sequence, and leaders can use their social identity to do so. When people realize that this is a severe problem, they will need to combat it.

Leaders like Al Gore may significantly impact public awareness campaigns, especially those focused on the global threat of climate change. Leaders with international reputations and ties to well-known for their values are the best role models for integrating the concept of social identity because of their position in social networks (Turner and Oakes 1986). Leaders of global identity can inspire any religious or minorities, sports, and organizational leaders to make inclusive judgments for nations and the greater well-being of the people. Suppose these leaders can devise strategies to mobilize central social identity bearers. In that case, they can help construct social cognition against climate change aversions that are taking place all across the globe. People need to understand that the dangers of climate change

extend far beyond human health and well-being. They will have far-reaching consequences in the economy, water scarcity, and other environmental problems that will be dreadful for generations to come. As a result of these disputes, there could be massive rifts across regions. Because health awareness is not confined to a particular culture or country, a global concern should be raised worldwide. Expertise in coping with climate change's unique effects and dispositions requires a vast array of abilities.

Moreover, the decline in water resources, the rise in death tolls, and natural catastrophes have significantly impacted human lives since 2000. In order to increase public awareness, much attention in research should be paid to all these topics. This study is optimistic about how Al Gore's leadership formed his policies for public presence using his charisma to inspire others to attract the global climate morpheme. His unwavering commitment to this worldwide cause should be recognized as a key to the motivation of countless world leaders. Future researchers studying climate change may use leadership styles from all levels of government, including the regional, national, and perhaps international levels.

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