

Climate Change and Its Health Impacts: Public Awareness and Government's Role

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Introduction

The greater part of the world is in active pursuit of strategies for addressing the health impact of climate change. Similarly, in Korea too, climate change looms large as an unavoidable social issue that calls for active responses. Up until recently, policy responses to climate change remained relatively tepid in Korea due in large part to legal barriers, organizational constraints, budgetary limits, and insufficient program support. However, with the introduction in February 2017 of Clause 2 of Article 37 of the Framework Act on Health and Medical Services, the health impact of climate change was made subject to assessment every five years. Also, the record-breaking heat wave of the preceding year inspired the strengthening of surveillance of heat-related illnesses.

Throughout the heat wave in 2016, the second-hottest in living memory, next only to that in 1994, the national surveillance system of heat-related illnesses worked well in quantifying, and reporting on, the health impact of heat waves, promoting public awareness of climate change.

The success of health-related programs in the Second National Climate Change Adaptation Plan (2016~2020) hinges on how well they reflect people's needs and how strongly they are supported by public acceptance. The Plan aims to, among other things, provide customized information on climate change adaptation, establish systematic protection for at-risk population groups, and design and implement education and awareness-raising programs. This study thus examines how people perceive of climate change, how seriously they take the various health risks that may arise as a result of climate change, and what roles the government should play to build up the capacity of people to adapt to climate change.

Public perception of climate change

A week-long survey (June 15~21, 2017) that was conducted as part of this study revealed that of 1,500 men and women aged 20~79, 96.6 percent were aware of climate change (with a sample error of ± 2.53 at the 95-percent confidence level). As few as 7.7 percent of the surveyed identified themselves as "very aware", while 42.7 thought they were "aware to some extent," and 46.2 percent agreed that they had "heard something about climate change." The rest—3.4 percent—said they "knew nothing about climate change." However, survey results such as these do not help one much to grasp what the general public perceive climate change to be. Thus, the need was evident for questions that would help more concretely define climate change as people perceive it.

In response to the question "what first comes to mind when you hear the phrase 'climate change?'"¹, Europeans answered on average with 6.6 words and with as many as 174 words, compared to 1.2 words on average for Koreans with a maximum of 3 words. The huge difference

¹ EPCC Project Team, (2007). European Perceptions of Climate Change (EPCC): Topline Findings of a Survey Conducted in Four European Countries in 2016.

may be attributed in part to Koreans' general tendency to be less expressive in surveys, and in part to the fact that while the European survey was conducted in the form of a face-to-face interview, Korea's, a telephone survey, may not have allowed sufficient time for the respondents to formulate answers.

Most of the surveyed understood climate change in terms of "global warming." The next-often cited phrase was "air pollution" (fine dust). It is important to note that the time in 2017 during which the survey was conducted was when springtime fine dust had emerged as a significant public health threat and when the government accordingly set "strategies against fine dust" as a national agenda item.

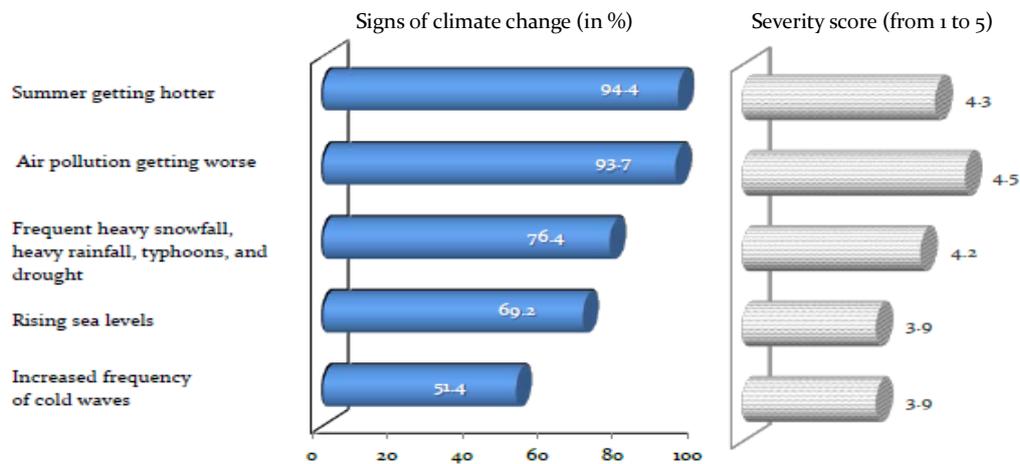
However, the health impact of climate change seemed yet to have become a priority concern for Koreans, as only five (or 0.3 percent) of the surveyed associated climate change with health.

[Table 1] Images Koreans associate with climate change

		No. of respondents	%
Global warming	Climate warming, global warming, greenhouse effect, mean temperature increase, high temperature phenomenon, temperature	592	40.9
Air pollution (fine dust)	Fine dust, yellow dust, pollution, air pollution, air, smog	308	21.3
Drought	Drought	138	9.5
Abnormal temperature	Climate abnormalities, abnormal temperature, shifting to subtropical climate, splitting between dry and wet seasons, El Niño, La Niña,	123	8.5
Heat	Heat, severe heat wave, Indian summer	105	7.2
	Ozone, ultraviolet rays	71	4.9
Environment	Contamination, environmental pollution, environment, environmental change, natural environment, destruction of ecosystem, desertification, devastation of rainforest	62	4.3
Change of season	Seasons disappear; Seasonal transitions no longer distinct; Spring and fall disappear; Summer lengthens; Winter lengthens; Spring and fall are getting shorter; Spring is getting shorter	54	3.7
Sources of pollutants (CO, etc.)	Smoggy pollutants, carbon dioxide, greenhouse gas, gas emission, carbon emission, emitted gas	47	3.2
Weather	Weather; Daily temperature difference widens; It snows less now; No hail, no rain, no monsoon; Heavy snowfall; Wet; Precipitation; Monsoon	44	3.0
Health	Infection, health, disease, lifestyle disease, respiratory trouble	5	0.3

Most of the surveyed picked "air pollution getting worse" (93.7 percent) and "summer getting hotter" (94.4 percent) as the two most serious of five major phenomena known to be stemming from climate change. The level of awareness among the surveyed of "rising sea levels" (69.2 percent) and "increased frequency of cold waves" (51.4 percent) was relatively low. However, the severe cold wave that begun at the end of 2017 and lasted until early 2018 can be assumed to have changed the way Koreans perceive of the frequency of cold waves associated with climate change, as individual perceptions and attitudes are formed based in large part on experience.

[Figure 1] Signs of climate change and their severity scores



Note:

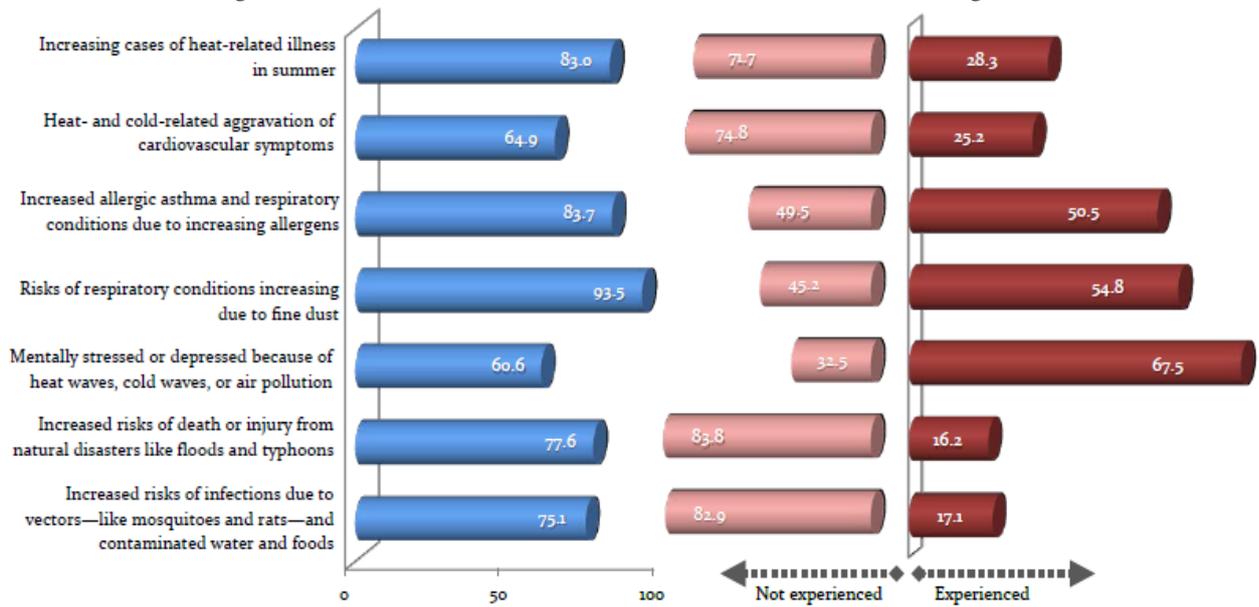
- 1) Those who perceived the listed meteorological phenomena as signs of climate change (left) also gave a severity score (right) for each of the listed phenomena
- 2) “Summer getting hotter”—Not related to climate change (2.6 percent)/Don’t know (3.0 percent); “Air pollution getting worse”—Not related to climate change (2.6 percent)/Don’t know (3.7 percent); “Frequent heavy snowfall, heavy rainfall, typhoons, and drought”—Not related to climate change (12.8 percent)/Don’t know (10.8 percent); “Rising sea levels”—Not related to climate change (5.2 percent)/ Don’t know (25.6 percent); “Increased frequency of cold waves”—Not related to climate change (32.6 percent)/Don’t know (15.9 percent)

People’s understanding of the health impact of climate change

It would be meaningful to examine if people, in addition to being aware of the health impact of climate change, in everyday life actually experience health issues related to climate change.

While most of the surveyed were aware of health issues associated with climate change, a much smaller percentage were aware of the impact climate change has on chronic conditions such as cardiovascular diseases and mental health disorders. Most of the surveyed saw fine dust-related health impact (93.5 percent) and allergic respiratory conditions (83.7 percent) as related to climate change, with more than a half of them reporting that they either themselves experienced, or saw someone they knew experience, such health issues. While 83.0 percent thought heat-related illnesses were associated with climate change, just 28.3 percent said they actually had experienced heat-related symptoms. Of those surveyed, 64.9 percent associated Heat- and cold-related aggravation of cardiovascular symptoms with climate change; 67.5 percent thought mental health risks arising from various meteorological phenomena were traceable to climate change. It is worth noting that as much as 67.5 percent of those who viewed climate change as posing mental health risks had experienced mental health issues related to climate change.

[Figure 2] Public awareness of health issues related to climate change

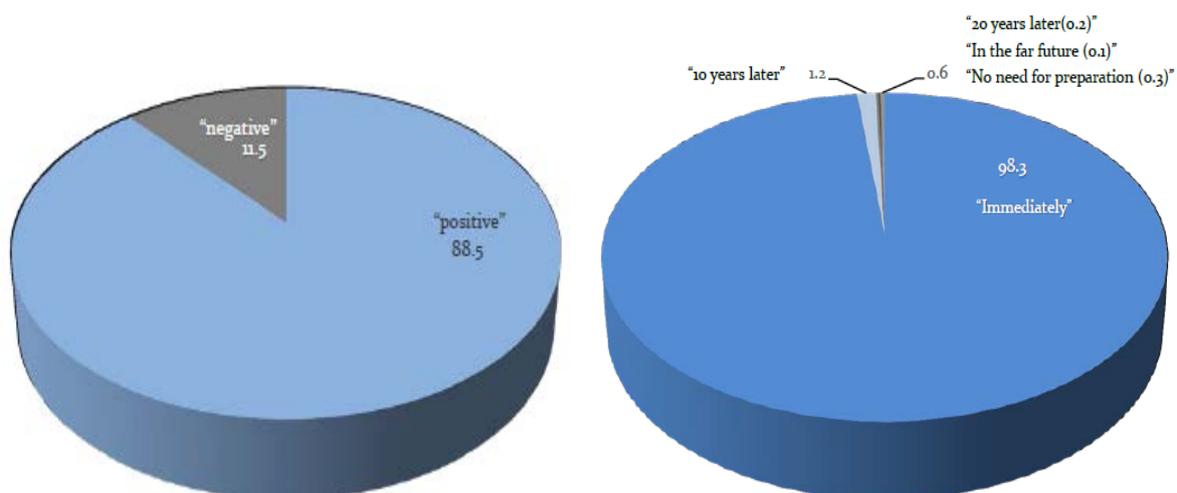


How Koreans perceive of climate change adaptation policies

As much as 88.5 percent of the surveyed thought that with sufficient individual and government efforts, health issues associated with climate change can to a great extent be prevented. Such a high percentage of optimism should not be seen as altogether positive, for as the Intergovernmental Panel on Climate Change (IPCC) has observed, an over-optimistic attitude toward climate change mitigation measures may well be one of the factors that hamper climate change adaptation². The understanding among Koreans of how serious an impact climate change can be has been broadening, if slowly, through various sources of information. But the belief that putting in place certain effective measures will somehow resolve many of the climate-related issues may as well undermine the importance of climate change adaptation as a priority issue for both individuals and the government. Still, almost all of the surveyed (98.3 percent) indicated that to better cope with health issues arising from climate change, preparation should begin immediately in earnest. And this may be taken as something of a pull for climate change adaption to become an urgent priority.

² Smith, K. R., Woodward, A., Campbell-Lendrum, D., Chadee, D. D., Honda, Y., Liu, Q., et al. (2014). Human health: impacts, adaptation, and co-benefits. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.*

[Figure 3] Are climate change health issues preventable? When to begin preparing for and coping with health issues arising from climate change?



[Preventability of health risks arising from climate change]

[Time at which to begin preparing for and coping with health issues arising from climate change]

Climate change adaptation: government's role and public awareness

If people do perceive climate change health issues as worrisome, it is entirely possible for them to call for the government to strengthen and improve adaptation policies. In fact, ministries and public agencies do make use of public demands as a means of providing an impetus to their policy.

According to interest group theory, a theorized model characterizing the process in which public policies are made and implemented, organized bodies of individuals with common interests bring issues to public attention and negotiate on them with public officials, exerting considerable influence in the process of policymaking³. The relevance of interest group theory to this study lies in that it states that there is room for the general public to participate in policymaking, implying the importance of the general public's awareness and role in the making of climate change adaptation policies.

The importance of public awareness in policymaking can be illustrated by classical health behavior models such as Health Belief Model (HBM) and the "knowledge-attitude-belief-behavior" approach.

One of the crucial roles the public sector can play in the area of health-related climate change adaptation is to help people become aware in the right way of the health impact of climate change and guide them to work on their own to reduce exposure and increase adaptability to climate change.

As it is hard at this point of time to expect people to actively reveal of their own accord the desire to protect their health from climate change, the government should help them do so. The survey showed that the level of awareness among the Korean general public of climate change and its health impact was by no means low, but it is important to note that as few as 7.7 percent of the surveyed responded with "Yes, I know about it in detail" to the initially-posed, simple question: "Do you know about climate change?" The fact that only a few in the surveyed, of

³ Kraft, M. E., & Furlong, S. R. (2010). *Public Policy: Politics, Analysis, and Alternatives*. Washington DC: CQ Press.

whom almost all were aware of climate change, affirmed knowing well about climate change and its health impact can be taken to indicate that such awareness among Koreans has yet to take hold deep enough. What all this suggests is that, given the many uncertainties remaining—even in expert quarters—about the scientific evidence for climate change and its health impact, it is still too early to expect that the Korean general public on its own will actively take part and make their voice heard in policymaking in this area.

Surveys of people's awareness of climate change and adaptation needs should be conducted regularly by the government, not intermittently as they have been as part of individual research projects. Also, climate change-related interventions may prove less effective than intended if they are implemented in a unidirectional fashion. As any effective policy on climate change needs people's compliance and acceptance, it should be accompanied by awareness-raising on issues concerned.

Efforts to raise people's awareness of the health impact of climate change must target the general public at large, not just specific groups that are identified as vulnerable. Those with adaptive potential should be supported in ways that help them translate their such potential into capability, and those without will have to be supported so as to raise their awareness about climate change and promote participation in climate change adaptation programs.

It is important that the information delivered to the general public about climate change and its health risks is correct and clear. This study found that of all the issues concerning climate change, Koreans were most widely aware of heat waves and air pollution. This is presumably because these are two atmospheric issues that of late people have experienced first-hand. The awareness Koreans have of such climate issues, however, will need to take root over time, grounded more in objective and scientific evidence than in experience and subjective judgment.

Policies that are intended to provide information to and increase awareness among the general public about climate change require not only well-designed programs, but also an efficient delivery system. In addition, those with higher vulnerability to climate change and its health impact, such as older people and children, will need specially designed awareness-raising materials, education methods and information delivery.