

**PROFILE AND STATEMENT
OF VICTORIO B. MOLINA, PhD Environmental Science**

My name is Victorio B. Molina.

Public health is my area of work and study. I am an Associate Professor of the Department of Environmental and Occupational Health, College of Public Health, University of the Philippines Manila. I obtained a degree in Civil Engineering from Bicol University and Environmental and Sanitary Engineering from Mapua Institute of Technology; Master of Public Health from the College of Public Health, University of the Philippines Manila; and PhD in Environmental Science from the University of the Philippines Los Banos.

I serve as resource speaker and consultant on public health issues including climate change impacts on the health of the Filipinos.

I was invited by Ms. Veronica Cabe, a petitioner in the human rights and climate change case, to be a resource person for the petitioners to speak on the topic climate change impacts on the health of the Filipinos in the first public hearing of the case on March 27-28 at the Commission on Human Rights in Quezon City, Philippines.

I agreed to be a resource person for the petitioners. On 01 March 2018 in the pantry of the UP College of Public Health, I was interviewed in person by Attorneys Zelda Soriano and Hasminah Paudac. On 13 March 2018, at around 7 o'clock pm, I spoke with Attorney Soriano over the phone and elaborated my earlier interview. I gave Attorneys Soriano and Paudac the instruction to draft my statement based on the interviews which they did, and after personal and careful review, I submit the following short and simple statement to the Commission on Human Rights which I commit to elaborate and clarify in the public hearing:

Q1: First, help us understand your field of work. What is public health?

A1: It's the science of protecting and improving the people's health by improving and modifying the conditions and external factors such as climate change that affect health.

Q2: So climate change is an external factor that affect health?

A2: Yes. It is one of the many factors that affect health. That's the nature of a health issue -- multi-factor. Examples of other factors are DNA, occupation, lifestyle and environment. With or without climate change, we have health problems. But climate change modifies or aggravates the health problem.

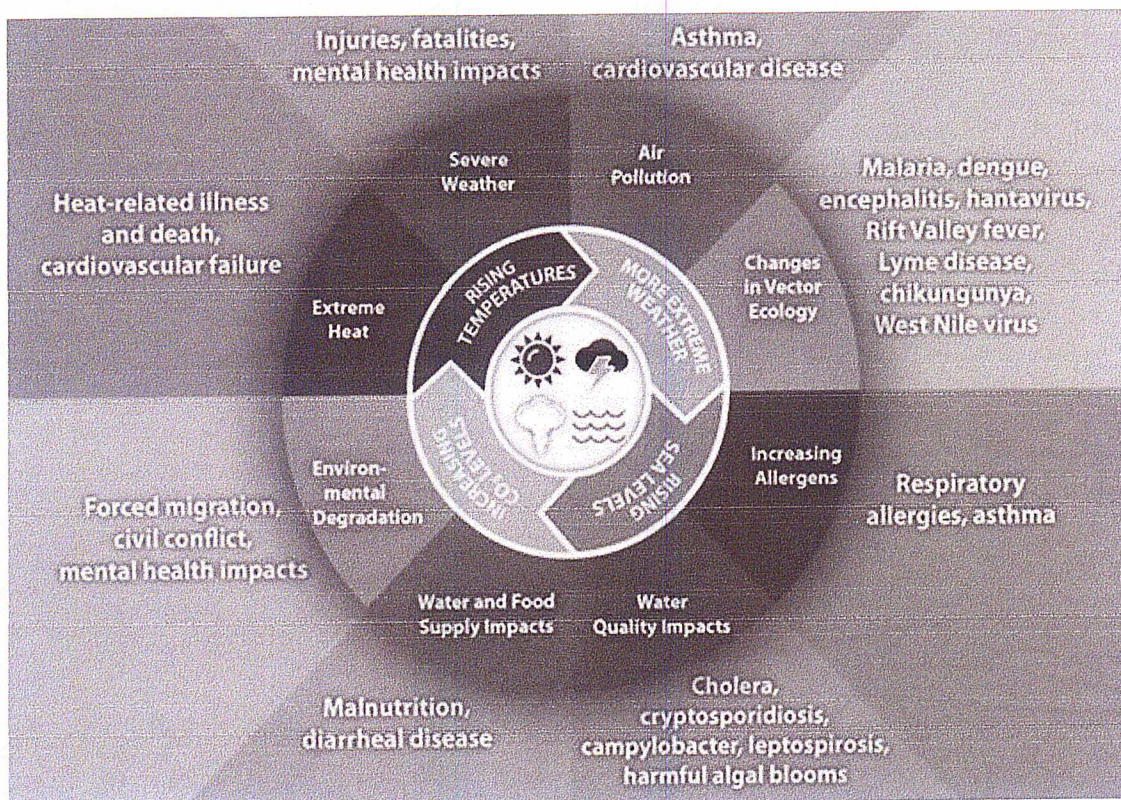
Q3: How?

A3: Through several pathways. The health impact is like the endpoint of those pathways... I am citing here the WHO Report on Climate Change and Health (2003) that categorized the pathways between climatic conditions with health into three which are as follows:

- 1) impacts directly related to weather/climate: These are often referred to as climate-sensitive diseases resulting from changes in the frequency and intensity of thermal extremes and extreme weather events that directly affect population health as well as an increased production of certain air pollutants and aeroallergens. Climate-sensitive diseases include heat-related diseases, water-borne diseases, diseases from urban air pollution, and diseases related to extreme weathers such as flood, typhoons, droughts, etc...
- 2) impacts resulting from environmental changes that occur in response to climatic change: These less direct mechanisms include those that affect the transmission of many infectious diseases especially water-, food- and vector-borne diseases and regional food productivity. Various physical (temperature, precipitation, humidity, surface water and wind) and biotic factors (vegetation, host species, predators, competitors, parasites and human interventions) affect the distribution and abundance of vector organisms and intermediate hosts. Further, temperature related changes in the life-cycle dynamics of both the vector species and the pathogenic organisms (flukes, protozoa, bacteria and viruses) would increase the potential transmission of many vector-borne diseases such as malaria (mosquito), dengue fever (mosquito), and schistosomiasis (water snail) may undergo a net decrease in response to climate change. Many of the major causes of death are highly climate-sensitive, especially in relation to temperature and rainfall, including cholera and the diarrheal diseases, as well as diseases including malaria, dengue, and other infections that are vector-borne.
- 3) impacts resulting from consequences of climate-induced economic dislocation, environmental decline, and conflict: These are in the longer term and with considerable variation between populations as a function of geography and vulnerability which are likely to have greater magnitude than the more direct effects. The health of a people reflects the combined impacts of climate change on the physical environment and ecosystems, and on the economic environment and society. It can adversely impact the availability of fresh water supplies, the efficiency of local sewerage systems and also likely to affect food security.

Q4: *Can you give specific examples of health problems that are climate change-induced?*

A4: Let me use an illustration to answer that and make my answer clearer and simpler. It's straightforward and self-explanatory...



Q5: *How can you say that a health problem is a climate change impact – any proof or test that establishes the direct link?*

A5: We know there is the link between climate change and health not only because our basic science tells us that everything is interrelated as described in the pathways but also because health, as I also said earlier, is determined by many factors. That is why when you go to a doctor, you are first asked if you have a family history of the sickness. The doctor is looking at the DNA factor by asking that question. Then your vital signs are measured because the doctor is looking at the physical factor of your health. Then you are being interviewed about your occupation, lifestyle and environment. Because all these factors contribute to your state of being healthy or unhealthy. Climate change is one of those factors. So there's no single proof or test that establishes the direct link. However, the relationship or association of factors like climate change and a health problem can be shown through patterns and trends that prevail during a minimum period of five years. Evidence of patterns and trends is now accumulating. I will research more on it to present in the public hearing.

Q6: *How vulnerable is the Philippines to the health impacts of climate change?*

A6: We are more vulnerable than others, I must say, because of our population density, level of economic development, food availability, income level and distribution, local environmental conditions, pre-existing health status and the quality and availability of public health care. But to get concrete data on the health impacts of climate change in the Philippines vis a vis the vulnerability factors that I just mentioned, the Department of Health must have the data and information.

Victorio Molina
 3/19/18
 Victorio Molina, PhD

Date of signing: 19 March 2018