

# Priorities for an Environment, Climate and Health Research Agenda in the European Union by Adopting Global Environmental Change

Naval Garg\*

Department of Information Science, Punjab University, Chandigarh, India

\*Corresponding author: Naval Garg, Department of Information Science, Punjab University, Chandigarh, India Email: Navalgarg678@gmail.com

**Received date:** June 08, 2022, Manuscript No. Ipgjrr-22-14566; **Editor assigned date:** June 10, 2022, PreQC No. Ipgjrr-22- 14566 (PQ); **Reviewed date:** June 20, 2022, QC No Ipgjrr-22-14566; **Revised date:** June 30, 2022, Manuscript No. Ipgjrr-22- 14566(R); **Published date:** July 07, 2022, DOI: 10.36648/Glob J Res Rev.9.7.3

**Citation:** Garg N (2022) Priorities for an Environment, Climate and Health Research Agenda in the European Union by Adopting Global Environmental Change. Glob J Res Rev Vol.9 No.7:003

## Description

The implementation of One Health/EcoHealth/Planetary Health approaches has been identified as key (i) to address the strong interconnections between risk for pandemics, climate change and biodiversity loss and (ii) to develop and implement solutions to these interlinked crises. As a response to the multiple calls from scientists on that subject, we have here proposed seven long-term research questions regarding COVID-19 and Emerging Infectious Diseases (EIDs) that are based on effective integration of environmental, ecological, evolutionary, and social sciences to better anticipate and mitigate EIDs. Research needs cover the social ecology of infectious disease agents, their evolution, the determinants of susceptibility of humans and animals to infections, and the human and ecological factors accelerating infectious disease emergence. For comprehensive investigation, they include the development of nature-based solutions to interlinked global planetary crises, addressing ethical and philosophical questions regarding the relationship of humans to nature and regarding transformative changes to safeguard the environment and human health. In support of this research, we propose the implementation of innovative multidisciplinary facilities embedded in social ecosystems locally: ecological health observatories and living laboratories. This work was carried out in the frame of the European Community project HERA which aims to set priorities for an environment, climate and health research agenda in the European Union by adopting a systemic approach in the face of global environmental change.

## Frequency of Epidemic Events and the Proportion of Zoonotic EIDs

The majority of Emerging Infectious Diseases (EIDs) have a zoonotic origin; their incidence has either increased over past decades or threatens to increase in the near future. Increases have been observed both in the frequency of epidemic events and the proportion of zoonotic EIDs, 72% of which are caused by

pathogens originating in wildlife. Zoonosis refers to a disease or infection shared between animals – including livestock, wildlife and pets – and humans. Such emerging zoonotic events have occurred repeatedly in the history of human populations. Broad scientific consensus suggests that COVID-19, whose etiological agent is SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), has a probable zoonotic origin. Based on phylogenetic analysis of currently known virus sequences, it is believed that SARS-CoV-2 probably emerged from a coronavirus present in China and other Asian countries, and its closest relative is hosted by horseshoe bats. However, unlike rabies, Ebola or West Nile virus, the disease is now characterized by strains of SARS-CoV-2 that circulate among human populations, independent of animal reservoirs. It has become a contagious, person-to-person disease agent. The virus then spread in China before it crossed borders and eventually became a pandemic within a few months. Its global spread was accelerated by international transportation and travel.

## Viruses as Single Disease Risk Parameters

As human infections are naturally transmitted from animal hosts, zoonotic EIDs are likely to occur repeatedly. Indeed, a majority of known viruses have been found in both humans and at least one other mammalian species, indicating that they have the potential to become zoonotic. Moreover, it has been estimated that several hundred thousand mammalian viruses are still to be discovered. Others have estimated that there are approximately 1.7 million viruses from 25 high-risk viral families yet to be discovered in mammals and birds, of which approximately 700,000 are predicted to have zoonotic potential. However, most of these studies tend to focus on viruses as single disease risk parameters without accounting for exposure and vulnerability factors in human populations that are paramount to estimate infection risk. Zoonotic disease emergence requires direct or indirect contact between an animal host and humans the microbe needs to be infective for humans, and human habits must favor the transmission and spread of the pathogen.