

One Health- Issues

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In the contemporary world of globalization, interspecies encounter and ecological concerns have been intensified as never before. Also, emergence and reemergence of infectious disease have manifested themselves not only in the interplay of medical and biological spectrum but also in social, cultural and political process. Given that six out of ten infectious human diseases transmit through animals, and plant and animal make the entirety human food consumption, can we think of a healthy and prosperous society, sustainable development and environmental protection, without accounting for human, animal and plant as a 'one'. The answer is definitely 'no', and that 'no' opened a new concept of health, one health, that transcends beyond the borders that divides health into human health, animal health and plant health.

The American Veterinary Medical Association (AVMA) has defined one health as the integrative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment. Empirically the concept of one health can be said to be evolved parallel to the human civilization. From time immemorial, the health and well-being of humans has been intimately linked to animals and the planet they share. In the books of Hippocrates, 'On Airs, Waters and Places' or in the concept of comparative medicine by Aristotle, notion of 'one health, can be traced. Even if we look into our faith books, the Bible has linked the beginning of human suffering to Eve eating the evil apple in the Eden garden. Hindu have long standing culture of using a mix of animal and plant products like honey, milk, ghee etc. as *Panchamrit* – panacea to all evil, in their religious function. This shows the historical acknowledgement of the dynamic and complex interaction of human, animal and plant health and their interdependency.

The greatest public health challenge that the 20th century faced and we are even fighting against in 21st century include the HIV, H5N1, both happened to be zoonotic, did not only claimed millions of life across the globe but also pushed back the global fight against poverty. The recent emergence of Ebola virus in addition to claiming thousands of lives raised new questions to the scientific community and governments about our scientific and institutional ability to response to such public health crisis. Time and often re-emergence of Bird flu has not only created an unprecedented health risk to human but has also caused loss of millions of dollar in the countries like Nepal. These are a few examples to show how health issues have become ever more challenging and complicated to deal with. They have now become an important part of the governance, political process, global economy, fight against poverty and sustainable development. We can no way win the fight to eradicate poverty and feed the ever increasing population expected to exceed 9 billion by 2050, without adequately addressing and managing these health challenges. The complexity and challenge of these issues demands collaboration and partnership among the scientific community across the discipline – veterinary science, human medicine, plant pathology, public health, biochemistry, environmental science etc. in addition to partnership and resource sharing across the geographical borders between governments and agencies.

In the countries like Nepal, where more than 60 rely on agriculture for their living, domestic animals being substantial part, the concept of one health is even more relevant. In our part of the world, domestic animals and farming are not only the means of economy and food but a way of life and living. People sharing common homes or even sometimes room with their birds like chicken or animals like cow or water buffalo are common across the country. The socio-cultural integration of humans and animals in our part of the world is probably the most intense in the world. This coupled with poor public health awareness, poverty and inefficient governance has worsened the challenge of our common health at the same intensifying the need of one health approach. Its high time that we developed the research, and service capacity and infrastructure to prevent and respond to these rapidly expanding problems, focusing not only on disease, but also on the promotion of health at individual, population, and ecosystem levels. Bringing substance to the concept, shaking up institutions and individuals, will require a difficult and long term effort especially as this applies to the interplay of physicians, veterinarians and biological scientists and public health researchers.

So to achieve the Sustainable Development Goals (SDGs) to end poverty, protect the planet and ensure that all people enjoy peace and prosperity, 'One Health' concepts must be integrated into our global health and veterinary curricula, policy instrumentations and institutional frameworks, to ensure that our graduates and professionals are prepared to excel and champion this concept, our policies are conducive and institutions are adaptive and capable to handle the ever increasing and changing global health challenges.