

One Health Approach: Way Forward to Prevent Future Pandemics

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World has seen many new infectious disease outbreaks before COVID-19. Majority of these emerging infections and almost all causing pandemics were zoonotic infections¹ Number of domestic and wild animals were proved to be source of such infections. Common ones include mammals, particularly bats, pigs, poultry, cattle, and camels from domestic animals, rodents & primates among the wild animals, and some birds especially water fowl. Nipah virus disease, avian influenza, Ebola virus disease, severe acute respiratory syndrome (SARS), Middle East Respiratory Syndrome (MERS), and Zika are few significant examples worth mentioning. Each year, millions of persons in contact with diseased domestic and wild animals suffer from such infections, resulting in considerable morbidity and mortality. Many of such outbreaks actually caused pandemic in recent past, worst hit were the developing countries. Fortunately, there was no significant person to person spread, so their impact was not enormous. Experts always feared, if any infecting agent acquired the ability to spread from one humane being to other, consequences will be devastating. The worst came in shape of COVID 19 which practically shut down the world, physically and economically.

Due to increasing population, cities around the globe are expanding. Such expansion was not possible without encroachment into agricultural land and forests. Similarly, mining and other extracting activities increase the humane footprints into new areas of globe. Increased demand of food due to increasing population and desire to consume more animal proteins lead to addition of new eatables animals in the list of previously known ones and development of large animal farms. All these activities resulted in damage to the environment and disturbed the ecosystem as well as an increased humane interaction with domestic and wild animals. In these circumstances, increasing numbers of zoonotic infections are understandable. Review of the Global disease stats revealed an increase in such outbreaks at the rate of 6.7% since 1980. But from 2000 onward, there was a steep rise and now several hundred such outbreaks are witnessed in different parts of world each year². Furthermore, increasing means and ease of transportation of humane, animals and goods made the world practically a global village. Infections starting in one part of globe can spread quickly across the boundaries depending on the infectious potential of culprit agent. Global authorities are now convinced that

“Pandemic anywhere is potentially the pandemic everywhere in very short span of time”. Worst example in the modern era is that of COVID-19 in recent days.

COVID -19 pandemic has exposed many flaws in our strategy to deal with any pandemic at global as well as national levels. These shortcomings were not limited to developing countries, developed nations were also found inadequately prepared to cope with such situation. Absence of equitable access to health care facilities (medicines, critical care equipment, devices, personal protective equipment, vaccines etc.) was major issue. Inequalities were present both within and between the nations. After a short span of panic, authorities joined their efforts across the globe to formulate new strategies, gain knowledge, translate it into life-saving technologies including equipments, medicines and vaccines, and deliver it equitably across the globe. Things improved overtime, though not ideal, but at the cost of huge loss of humane lives and enormous social and economic burden. Had the world prepared to deal with such catastrophic events, response could have been prompt with lesser consequences.

Considering the evidence quoted above, infectious disease outbreaks are increasing at alarming rates and world is facing several hundreds of such outbreaks in different parts of world each year. Many of these have the potential to give rise to devastating pandemic, so next pandemic may be already on the horizon.³ Can we achieve and maintain the level of preparedness required to deal with an emergency of this scale globally? It might be possible in some developing countries but probably not possible in most of the developing world struggling to meet the minimal standards of health care.

No doubt, prevention is better than cure, and it hold true in case as well. As most of the pathogens involved in the recent pandemics are spill over infections from animals to humane in a conducive environment, risks can be reduced by addressing the factors active at the Humane – Animal - Ecosystem interface. The actions which likely to reduce spill overs and its consequences are strengthening of animal health and veterinary services, improving the on-farm biosecurity, reducing deforestation and/or forest degradation, improve conservation and improving urban planning.⁴

World bank has released a new report,⁵ “Putting Pandemics Behind Us: Investing in One Health to Reduce Risks of Emerging Infectious Diseases”. It must be realized that health of humane, animals, and ecosystem is interdependent and “One Health” means health of all three. World bank advocates all the policy makers, governments and international agencies to implement comprehensive strategies recommended in this report to prevent the possibility of future pandemics by addressing the risks involved at the source.

Among the strategies of pandemic prevention, preparedness and response, the prevention is most cost effective. World bank has estimated that by adopting ‘One Health approach’, prevention cost will be only one third cost of preparedness and less than 1% off cost of responding to COVID -19 pandemic in one single year 2020. There are many co-benefits of ‘One Health approach’ in addition to prevention of pandemic inhumane, like less CO2 emissions leading clean and healthy environment, improved productivity and food safety, reduced economic burden from animal diseases, and increased access to international markets for producers from both developing and developed countries.

To avoid any future devastating pandemic and reap the co-benefits in shape of sustainable humane development, ‘One Health Approach’ way forward to be adopted at national, regional, and global levels.

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