

Reprinted from One Health Newsletter Winter Issue, January 2010

ONE WORLD, ONE HEALTH – AN UTOPIAN DREAM OR A REALITY?

S.K. Lam, PhD

The One Health Initiative is aimed at enhancing the integration of animal, human and environmental health for the benefit of all. This utopian concept may be realistic in developed countries but may not become a reality in developing countries unless we address a much wider issue of health in these countries.

The world population stands at 6.8 billion in 2009 and will reach 7 billion by 2011. Virtually all the growth is in developing countries. It must be realized that more than half the world population live in countries which are in a constant struggle just to fight endemic infectious diseases. Third world countries will always be at a disadvantage, being burdened with 90% of the global health problems with only 10% or less of health resources. With the increasing world population, it will be even more difficult and challenging to find the ways and means to tackle the issue of health when faced with food and water shortage. Migration as a result of social unrest will undoubtedly add to these problems

In order to meet the demands of the growing population, land has to be carved out to cultivate food and cash crops. Building of dams and uncontrolled logging activities go side by side with opening of agriculture lands. But at what price and what problems will this pose that will affect the One Health Initiative? Indiscriminate land clearing and deforestation is often criticized by the rest of the world but what is the alternative for the growing population of the impoverished poor? "Who will feed my children?" is the anguished cry of many. Opening up of land can expose them to exotic diseases which are normally contained in ecological niche with little or no encounter with humanity. Is it any surprise that we see reports of diseases like simian malaria, melioidosis, lyme disease, leptospirosis and other hitherto unknown diseases? Climatic change and global warming as a result of these activities may even result in bigger outbreaks of vector-borne diseases such as dengue, Japanese encephalitis, and chikungunya.

In order to promote greater yields of food crops, these countries are prepared to consider the planting of high yielding and pest-resistant Genetically Modified (GM) crops which may not have been perceived to be adequately experimented with in the country of origin. Food security is seen to be more important and of greater concern to them than food safety. The same goes for anything GM, domestic animal produce, pesticides, etc. On the issue of food security, there is a strong perception among Association of Southeast Asian Nations (ASEAN) countries that they are the testing grounds for anything GM, crops, animal produce, etc.

There was a massive hue and cry last year when there was a press release in Malaysia about the release of GM mosquitoes to fight against dengue. The media can play an important role in the dissemination of scientifically correct information which may actually be beneficial to mankind. As for the issue of trade, it is most damaging when trade barriers are immediately set up following an outbreak in domestic animals, whether justified or not, adversely affecting the economy of developing countries. This is the same when travel advisory is issued in haste and can be very detrimental to tourism. The economic impact of Emerging Infectious Diseases (EID) is far-reaching indeed.

EID have become a rallying call for scientists the world over to work together to contain their spread. About 70% of EIDs involve either wild or domestic animals, or both. Examples include SARS, avian influenza, Nipah and Hendra viruses. Developing countries are often the epicenters for such outbreaks and lacking resources, they have to look to the United States Centers for Disease Control and Prevention (CDC) and the World Health Organization

(WHO) for help. Regrettably, regional experts are not utilized due to the lack of funds and infrastructure.

The Nipah outbreak is a classic example of a One Health type of outbreak involving agricultural practice, migratory bats, domestic pigs, and human disease. The spread of the disease in the country and to Singapore is due to a lack of enforceable quarantine measures, poor agriculture and farming practices and inadequate compensation for culling of domestic animals.

More than the sharing of expertise to fight EIDs, there is a need to do more for developing countries. Much criticism has been levied on countries such as China, Indonesia and Thailand for not sharing influenza virus strains in the face of pandemics. While we see other countries stocking up on tamiflu and H1N1 vaccines, the developing countries can only wish and hope that developed countries will be generous enough to make a donation to the least developed countries.

Is there a mechanism whereby there is a fairer distribution of health resources and better vaccine access which are not measured in terms of dollars? Do we still wonder why developing countries are reluctant to share their virus strains when there is obviously little benefit to them?

Conclusion

While the One Health Initiative is to be lauded, the solutions may not lie in the implementation of methods found suitable for the developed world. One size does not fit all here. What is to replace deforestation, open burning or free range poultry farming? Perhaps encouraging eco-tourism will prevent deforestation. A more pragmatic and innovative approach as well as a paradigm shift needs to be implemented to enable any hope that this noble initiative will turn from a dream to a reality. Engaging economists, health policy makers, politicians, social workers, NGOs such as the Bill and Melinda Gates Foundation, may be just as important as engaging the global scientific communities in implementing the One Health Initiative for the developing world.

Professor Dr. S. K. Lam is a Senior Research Fellow at the University of Malaya, Kuala Lumpur, Malaysia and is a member of the Strategic Advisory Group of the 1st International One Health Congress scheduled to be held in Melbourne, Australia February 14-16, 2011.

Dr. Lam has been one of the most influential figures in medical virology in Southeast Asia. His research in dengue is recognized worldwide as well as by the World Health Organization (WHO). In recent years, his involvement in emerging diseases has led to the discovery of new viruses in the region, and the isolation of Nipah virus and Tioman virus has made his team internationally recognized.