



Role of Science Diplomacy in Case of Bio-disasters and Epidemics



Anil Kumar Sharma*

Traditionally diplomacy is: (i) the profession, activity or skill of managing international relations typically by a country's representative abroad; (ii) is the art and practice of conducting negotiations between representative of states; (iii) the conduct by Government officials of negotiations and others relations among nations; and (iv) the art or practice of conducting international relations as in negotiating alliances, treaties and agreements. Science Diplomacy is the using scientific and technology collaborations among nations to address common problems and to build constructive international partnerships. Science is global and is beyond geopolitical boundaries. Pursuit of Science is scholarship-driven.

Science and Technology diplomacy is for public and social good. Currently, there is a changing role of science in foreign policy fostering, science diplomats and using science to strengthen relation with the world. Priority for science diplomacy is to solve common problems for enhancing quality of life.

"Many of the challenges we face today are international and whether it's tackling climate change or fighting diseases-the global problems require global solution that is way it is important that we create a new role for science in international policy making to diplomacy to place science at the heart of the progressive international agenda." (Rt. Hon. Garden Brown, MP)

Science can resolve many problems in the world. It enhances quality of life, nutrition, while eradicating poverty, food safety, health and hygiene, drinking water supply; leads to production in agriculture and implementation in animal husbandry, food security, socio-economic welfare of mankind; prevents and control human, plant and animal diseases, control and eradicates

* Deputy Director, Department of Animal Husbandry, Government of Uttar Pradesh, India.

communicable, epidemiological and zoonotic diseases of human and animals and public health; and protects environment and climate change and global warming.

The South-South Cooperation (SSC) is a term historically used by policy-makers and academics to describe exchange of resources, technology and knowledge among developing countries; also known as countries of the global south. SSC is a broad framework for collaboration among countries of the South in political, economic, social, cultural, environmental and technical domains, involving two or more developing countries; it can take place on a bilateral, regional, sub regional and inter regional basis.

Buenos Aires Plan (1978) of Action. The SSC has gained momentum and has shown encouraging trends after the adoption of this Plan of Action.

UN Day for SSC is observed every year on 12 September. Issues like food insecurity, poverty, sustainable agriculture, biological diversity can be addressed together through SSC. Lives of billions of people in the South global and beyond can be improved by providing excellent opportunity for mutual beneficial partnerships and economic growth, industrial development and poverty alleviation. The SSC is playing a much bigger role than even before in dealing with food insecurity.

Health has been included in Sustainable Development Goals (SDG), adopted by the UN unanimously in September 2015. India attaches a high priority to 2030 Agenda for SDG for the wellbeing and progress of mankind.

Countries of the global south have similar environmental conditions, similar eco-systems, face similar disasters, diseases and epidemic and pandemic diseases (communicable and zoonotic). They have similar biological conditions and almost same geographical and topographical conditions.

To meet goal of health and hygiene in Southern part of the globe, the SSC may facilitate in overcoming diseases and disasters, bio-disasters and bio-terrorism. Such problems have no

solution in isolation but can be resolved through partnerships, collaborations, coordination and technology facilitation mechanisms (TFM).

The SSC may have a viable TFM and STI to mitigate bio-disasters and epidemics on human health. One of the glaring examples of such a kind of cooperation and collaboration is SDMC (SAARC Disaster Management Centre), established in New Delhi (India) for SAARC countries.

Bio-disasters (biological disasters) are directly caused by pathogenic infections transmitted by living vectors. Exposure to pathogenic microorganisms, toxins and bio-active substances may cause injury, illness or other health impacts; lead to loss of life loss of livelihood and service; and result in social and economic disruptions or environment damage and outbreak of epidemic diseases, plant and animal contagion, insect or other animal plagues and infestations.

Pandemic is an epidemic of existing, emerging or re-emerging diseases and pestilences spreading across a large region, i.e. a continent or even worldwide e.g. influenza HINI (Swine Flu). Bio-disasters (bio-hazards) lead to mass mortality owing to the entry of virulent microbes into a congregation of susceptible people living in a manner benefitting for the spread of infection, e.g. ebola, dengue fever, malaria, measles (all endemic) and cholera and swine flu (pandemic). Bio-disasters of zoonotic significance (e.g. avian influenza – bird flu, anthrax, rabies, brucellosis etc.) need a special attention to be dealt with. Weapons of bio-terrorism are anthrax, plague, tularemia, botulism, cholera, shigellosis, small pox and viral hemorrhagic fever.

The highly pathogenic avian influenza (HPAI) virus causing bird flu is communicable from birds to human being and vice versa. Human to human transmission was observed in Hong Kong in 1997; 376 cases of human infection with H5N1 form of bird flu have been recorded in 14 countries since November 2003, mostly in South East Asia. "The highly pathogenic H5N1 bird flu virus has passed from human-to-human in China raising fears that the virus may have started to mutate. Experts

predict that around 20 per cent of the total world population will fall during the next pandemic of 28 million may need hospital care.

A good surveillance system to track and identify human cases rapidly are needed. Maximum vigil, free flow of information, regarding disease, technology facilitation, collaboration, coordination and mutual trust building are needed at the SSC level. Disasters (especially bio-disasters) are boundary less. These

are cross boundary (trans-boundary infection and infestation) such problems can be resolved jointly at equal partnership basis among SSC countries. Disease diagnostic sharing and capacity-building (common vigilance and monitoring sharing) can be addressed under the SSC framework to reduce bio-disaster risks.

Sharing of information on disease epidemiology, diagnostics and management can be augmented through science diplomacy under the SSC.