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Editorial

2020-The International Year of Plant Health (IYPH) -An opportunity to increase awareness about the importance of healthy plants in achieving food security and sustainable development goals

Plants are essential not only for over 98% of the oxygen we breathe and 80% of the food we eat, but also for 70% of the drugs we use, besides a myriad of other dependent functions. Healthy plants, therefore hold the key to the sustainable intensification of agriculture for feeding the growing global population by 2050. Yet, plant health is not a very familiar term, in contrast to human health. Recognition, advocacy, and support for the promotion of plant health is therefore of paramount importance for a food secure world based on stable and sustainable ecosystems. Towards this objective, in July 2017, the FAO Conference approved a draft resolution requesting the General Assembly of the United Nations to consider declaring 2020 as the International Year of Plant Health (IYPH) based on Finland's proposal in the 10th Session of the Commission on Phytosanitary Measures (CPM-10) in 2015.

The issues of plant health and biosecurity are borderless as plant pathogens do not respect political boundaries and therefore the approach for tackling it should also transcend national boundaries. The strategy must be based on three key principles; (a) risk anticipation(b) risk surveillance and management(c) risk awareness and communication. These require considerable resources and as past experiences have shown, the only way forward is though the formation of global teams and consortia.

Recent encouraging examples of collaboration include the tackling of the newly emerged Wheat Blast in Bangladesh in 2016, whichwas most likely introduced into the country from South America. Data was shared through an open science web platform (Open Wheat Blast). On the contrary, Cassava Mosaic Disease (CMD) outbreak in Southeast Asia a year earlier in 2015, could spread because concerns within the region about the economic implications of recognizing the presence of the disease led to further delays in issuing a region-wide alert, allowing CMD to spread into neighbouring regions and countries.

Examples of near real-time, genomics-based, diagnostic and advisory platforms are the Mobile and Real-time Plant Disease (MARPLE) diagnostics, which has been integrated into an existing wheat rust early warning system in Ethiopia to directly inform disease risk forecasting. Another very good working example is the Late blight (LB) disease of Potato, where worldwide losses due to Late blight are estimated to exceed $5 billion annually and the pathogen is regarded as a threat to global food security. Consortia of scientists in Europe (Euro Blight), USA (USA Blight) determine population structures through annual surveillance to manage the disease. A similar approach has been envisaged for Asia in the recently formed Asia Blight. Both the Wheat rust and LB disease management initiatives are examples of concerted collaborative efforts by global teams.

A common feature of many disease outbreaks whether in high-income countries (HICs) or low-income countries (LICs), is that the passive surveillance infrastructure has the most in-field monitoring and trained eyes, but the least coordination from local to global level. This is the sector that needs networking particularly, where physical surveillance infrastructure, risk assessment, data sharing, communication protocols and most importantly modern diagnostic capacities need to be strengthened and disease specific scientific expertise in the respective countriesidentified.

In the International Plant Protection Convention (IPPC), development agenda for 2020–2030, IPPC and FAO has highlighted the need to strengthen surveillance systems, with diagnostic laboratory networks as a key component. India therefore needs to quickly integrate into the existing networks and also

initiate new networks which are relevant to its agri-economy. A robust policy to correctly identify scientific expertise for the respective diseases without any affiliation or institutional bias as well as integration of the biological component into the existing big data and analytics infrastructure is urgently needed. This should be followed up witha dedicated and priority research funding for pathogen surveillance and setting up of disease/organism specific diagnostic laboratories; especially as most Indian farmers have small holdings, and any socio-economic disruptions due crop loss cannot lead to holistic sustainable development goals.

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