

Agriculture's 'green revolution' must continue to evolve, refocusing on strengthening climate-science and innovation to sustainably feed a world with nutritious and safe food

07/08/2019, Chennai – The 'Green Revolution' that transformed agricultural production in Asia-Pacific, the world's largest region, is alive and well but must retool to embrace climate-sensitive innovations and technologies to sustainably meet the increasingly complex demands of a nutrient-deficient world, the UN's Food and Agriculture Organization said today.

The call was made during a special meeting to commemorate 30 years of development achievement of the M.S. Swaminathan Research Foundation under the outstanding leadership of its mentor and visionary, M.S. Swaminathan, a trailblazing scientist that spent decades applying scientific research to tackle hunger, malnutrition and poverty.

Swaminathan was one of the founders of the Green Revolution, but also a visionary who embraced the important concept of sustainable development before most – lecturing on the importance for sustainable agriculture as far back as the late 1960s.

"The world, and indeed this Asia-Pacific region, has learned a lot due to Dr Swaminathan and the work conducted by the research foundation in his name. We have much to be grateful for as food production increased through the decades and hunger and poverty had been in retreat," said Kundhavi Kadiresan, FAO Assistant-Director General and Regional Representative for Asia and the Pacific. "To feed a burgeoning global population with nutritious food we have to consider the symbiotic relationships between agriculture, biodiversity and climate change. We have to look at the enabling factors of science, technology and innovation, of synergies and efficiencies through partnerships and investment, and of empowering women and youth to increase the viability of farming."

Revolution to evolution – safeguarding biodiversity and achieving Zero Hunger through climate-smart agriculture, technologies and innovations

While the Green Revolution was fundamental in increasing food production, it also relied heavily on monocropping and the extensive use and, in many cases, overuse of chemical fertilizers and pesticides which, over time, degraded soil, polluted water and undermined biodiversity.

In order to sustainably increase food production, while streamlining food systems, FAO has called for greater deployment, and a scaling-up of, accessible digital and data-intensive technologies to be readily available to small-scale farmers, fishers and foresters. Under sustainable agriculture, the only input to use intensively would be data, while minimizing the use of physical inputs (fertilizer, chemicals, or water) while using proven techniques such as intercropping, crop rotation, low-tillage and integrated pest management

There are many examples already, from the use of on-farm sensors for real-time management of crop and livestock systems, to the mapping of soil nutrition status which allows for more targeted and effective nutrient management practices. Using wireless sensors to monitor environmental conditions such as soil moisture, allowing for more efficient water use and using digital technology to monitor the weather and provide early warning services are important resilience-boosting tools.

"The global trends of a growing inequality, shifting demographics, increasing urbanization and changing climate have created a global challenge. We have to increase food production while protecting the

environment from biodiversity loss and climate change. ” said Kadiresan “We are glad to join hands with the Swaminathan Foundation and move towards a healthier, more equitable, sustainable and climate resilient future,” she said.

In order to help achieve the world’s Sustainable Development Goals (SDGs) by 2030, FAO is committed to promoting inclusive and sustainable agriculture that delivers healthy diets, that is resilient to climate shocks, and is supportive of biodiversity conservation. Recently FAO has initiated a [Biodiversity Mainstreaming Platform](#) and is preparing a strategy to mainstream biodiversity in all agricultural sectors.

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