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"In the era of global warming, forests are a fundamental requirement for the balance between carbon emission and carbon absorption."

Read the full interview with Professor Swaminathan, key-note speaker on Trees and Forests in Globally Important Agricultural Heritage Systems (GIAHS) at the XIII World Forestry Congress (within a side event to be held on 21 October) and "Father of Economic Ecology" as he has been described by the United Nations Environment Programme.

M.S. Swaminathan
Member of Indian
Parliament (Rajya Sabha)

[Listen to the full interview]

Rome, FAO Headquarters. Imagine interviewing one of the three most influential Indians of the 20th century, according to TIME magazine – the other two being Mahatma Gandhi and Rabindranath Tagore. Just like Tagore's tree, *"revealing creative power in its peaceful form"*, Professor M.S. Swaminathan, educated in India and at Cambridge, UK, recipient of 58 degrees *honoris causa,* is founder of the MS Swaminathan Research Foundation which started its work 20 years ago in the thematic areas of biotechnology, biodiversity, ecotechnology.

Largely influenced by Gandhi is his view that, "nonviolence to nature should become a non-negotiable human ethic". This is little surprising as, Professor Swaminathan's advocacy of sustainable agriculture leading to an ever-green revolution makes him an acknowledged world leader in the field of sustainable food security. "In Praise of Trees" at least as much as Tagore, Professor Swaminathan further calls the attention of policy makers to the interdependence of Forestry and Agriculture.

Q. What has been the role of trees in dynamic conservation of agricultural heritage systems to sustain rural livelihoods?

A. Trees have been the custodians or guardians of bio-diversity both underground and aboveground. This is why, for a very long time, trees have been given spiritual value by local communities in the form of sacred groves. Even the New Testament has mentioned sacred groves. Trees are keystone species, economically and ecologically. They have provided the substrate for the survival of biodiversity, whether it's cereals, or tuber crops. Trees also improve the soil. One of the problems in the Tropics and Subtropics, and in my country, in India, is the lack of soil organic matter. Whenever you have a canopy of trees – leaves fall, improving the soil organic matter. And that is basic for conservation farming; soil health management is very important. Trees and forestry and agriculture have a symbiotic relationship. Women started collecting plants from forest canopies, and started cultivating them, what we call domestication of plants. So, trees are fundamental to sustainable agriculture.

Q. How can policy makers improve the interaction between forests and agriculture?

A. Policy makers have to realize the interdependence of agriculture and forestry. Forest canopies influence climate, they provide fertilizer to the plant, they provide a large number of minor non-wood forest products for the local people, and above all they are the great conservers of biodiversity. In fact, today we find many medicinal plants coming under the category of rare endangered, threatened

species, largely because people are not cultivating them, they just go to forest canopies and collect them, using them. That is not sustainable over a long period of time. Whichever is a valuable plant, we should try to domesticate, cultivate and preserve it. In the era of climate change, the era of global warming, people have to realise the carbon sequestration properties of forests... here's a very fundamental balance between carbon emissions and carbon absorption. People have to realise more and more the multiple benefits forestry confers on agriculture and the mutual interdependence of crop husbandry, animal husbandry, forestry and human well being.