Creating a double-storey agriculture in Africa for food security with environmental resilience

Dr Dennis Garrity
Director General, World Agroforestry Center (ICRAF)

In the coming decades, African agriculture must be transformed to avoid widespread starvation. By 2050 food production must be at least doubled to feed an estimated African population of 1.8 billion. However, food production per capita has been in decline, and cereal yields have been stagnant since the 1960s. Can productivity be doubled, while at the same time adapting to climate change, and also reducing greenhouse gas emissions in ways that will benefit small landholder farmers?

A promising fresh approach ‘outside the square’ aims to achieve this: ‘Evergreen Agriculture’ integrates appropriate fertiliser trees into agriculture, where trees are intercropped in annual food crop and livestock systems. It sustains a green cover on the land throughout the year, bolsters nutrient supply (through nitrogen fixation and nutrient cycling), increases direct production of food, fodder, fuel, fibre and income (from wood products), while at the same time increasing resilience to climate variability and climate change.

Although still underappreciated, Evergreen Agriculture is now practiced by hundreds of thousands of farmers in Zambia, Malawi, Niger, Mali, and Burkina Faso and a broad alliance is emerging of governments, research institutions, and international and local development partners committed to expanding Evergreen Agriculture across the African continent.

Dr. Garrity is a systems agronomist and research leader, whose career has been focused on the development of small-scale farming systems in the tropics. He completed a PhD in Crop Physiology at the University of Nebraska, USA, and is Director General of the World Agroforestry Center (ICRAF), the global leader in advancing the science and practice of producing trees on farms. He also chairs the Steering Committee for ‘Landcare International’, a global organization (now active in 17 countries) gaining momentum as a worldwide movement promoting a better care ethic for the land.

Dr Garrity has been active in the development of institutional innovations related to farmer-led organisations in sustainable agriculture and natural resources management and he is part of a global effort to reconsider the future of agriculture in the 21st century by examining unconventional ways of creating more productive and environmentally sound farming systems.

Currently, he and his colleagues are supporting the development of Evergreen Agriculture programmes in 21 countries in Africa, as well as in India and several other Asian countries.

Enquiries: (08) 6488 4717    Email: ioa@uwa.edu.au    Website: ioa.uwa.edu.au