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Changing Planet*



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New Times, New Tools: Agricultural Education for the Twenty-First Century

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On a vacant lot in southeast Washington, D.C., just across the street from the Capitol Heights metro station, you can find the city's newest and largest urban farm. The 1.2 hectare East Capitol Urban Farm hosts research plots, a farmer's market, a mobile kitchen, a community garden, walking trails, and a playground, and soon it will produce fresh fish and vegetables in a high-tunnel aquaponics system. The farm is the first in a network of urban food hubs planned through a broad coalition of partnerships led by the University of the District of Columbia's College of Agriculture, Urban Sustainability and Environmental Sciences (CAUSES).¹

"Being in Washington, D.C., in an exclusively urban environment and having the land-grant mission gives us a unique perspective on what we do and how we do it," said Dwane Jones, director of the Center for Sustainable Development and Resilience at CAUSES. "We want our students to understand that what we do locally in D.C. matters to people here, but it also has an impact on the world." CAUSES is the only publicly funded college of agriculture in the United States using experiential, "hands-on" learning as the core college-wide teaching strategy and using collaborative, community-based sustainable development projects as the primary learning platform.²

Widely recognized as a major factor pushing our planet beyond "safe operating space," the way that we eat fuels climate change, erodes community resilience, and contributes to many other twenty-first century challenges. Calls for

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a transformation of the global industrial food system have grown over the last decade as it has become increasingly clear that sustainable food systems are the only way to achieve food security in a world of 9 billion people. This push for a fundamental shift in agriculture comes amid growing concern about the capacity of institutions of agricultural higher education to drive such a transformation.³

The Inadequacies of Modern Agricultural Education

As the twentieth century drew to a close, the U.S. land-grant university system prepared to celebrate one hundred and fifty years of public education. A profoundly radical innovation in higher education, the original mission of the land grants was to enhance public well-being through universal access to practical, place-based learning in agriculture within the context of a liberal education. This system of higher education is credited with the transformation of agricultural education worldwide through the development of agricultural science and technology, graduate training, and international development efforts.⁴

Despite its many successes, critics from within and outside the land grants expressed concerns about the capacity of the system to produce agriculturalists who could effectively address the sustainability challenges in agriculture and food systems. Although criticisms of the land-grant system varied—some focused on the limits of reductionist science, others on a lack of collaboration and problem-solving skills in graduates—critics agreed that the teacher-centered, content-driven strategies common in agricultural education had to change. Similar concerns about agricultural education were being raised at this time throughout the world.⁵

Although critics have been vocal and persistent over the last twenty years, the land-grant system has proven resistant to calls for change. The tendency of contemporary agricultural sciences toward increasing specialization into food system components—such as soil science, agribusiness, plant genetics, entomology, and food technology—has created both organizational and physical barriers to integration of the natural and social sciences. Other barriers to reinventing agricultural education in land-grant institutions include declining public support, which has compromised higher education budgets and given private funders more control of the research and education agenda, and agricultural faculty that typically have no formal training in teaching and little incentive to seek professional development opportunities.⁶