

Calestous Juma

(1953–2017)

International-affairs scholar who championed science for African development.

“Africa,” Calestous Juma wrote to me in 2015, “is diverging between those who want to talk and those who want to do something practical.” Juma was one of the latter. An international-development scholar, he championed the harnessing of science, technology and innovation for development. He founded Africa’s first science-policy think tank, led major United Nations science initiatives and wrote influential books. Juma, a Kenyan professor at the Harvard Kennedy School’s Belfer Center for Science and International Affairs, died in Cambridge, Massachusetts, on 15 December, at the age of 64.

Juma’s trademark mix of candour and humour inspired many African presidents, including Paul Kagame of Rwanda, to invest in national and continental research schemes. For African academics, Juma was an ally connected to the world’s most powerful presidents and prime ministers. Yet he was loved for his approachability — especially by journalists such as me, with whom he shared a special bond.

Born in 1953, Juma grew up in Busia County, western Kenya, on the shores of Lake Victoria. His childhood was plagued by bouts of malaria. To help pay his school fees, Juma fixed broken radios and record players. Unable to afford university, he trained as a science teacher, but got a job reporting on science and the environment after an editor at Kenya’s *Daily Nation* spotted his exceptional talent for writing in letters Juma submitted to the newspaper. In 1979, he went to work for the non-governmental organization Environment Liaison Centre, based in Nairobi, as a researcher and editor. He went on to receive a scholarship to study science policy at the University of Sussex, UK, where he completed his PhD in 1987.

Juma returned to Kenya to create the African Centre for Technology Studies (ACTS) in Nairobi. ACTS, which opened in 1988, helped to draft Kenya’s first industrial-property legislation, leading to the creation of the country’s patent office. At ACTS, Juma directed a Canada-funded project called Economic Reform and Environment in Africa, which explored the links between economic development and conservation management. Drawing on a three-year project in Africa, he published *The Gene Hunters* (Princeton Univ. Press) in 1989, which set



out the threats of modern biotechnology and its potential for solving food insecurity, especially in developing nations.

In 1995, Juma moved to Canada to serve as the first executive director of the United Nations Convention on Biological Diversity, which he helped to negotiate with policy bodies such as the Food and Agriculture Organization of the UN. He enjoyed engaging scholars, diplomats and researchers in discussions about conservation and sustainable biodiversity. The resulting international agreement on handling the products of modern biotechnology, the Cartagena Protocol on Biosafety, was adopted in 2000, after Juma left the organization. Juma felt that it placed too many restrictions on the use of genetically modified crops in Africa.

In 1998, Juma moved to Harvard to think and write. He spent the early 2000s coordinating a UN task force on how science and technology could assist with the attainment of the Millennium Development Goals, notably eradicating hunger and ensuring environmental sustainability. He influenced Africa’s 2005 science plan, which created continental schemes to boost research under the auspices of the African Union and the New Partnership for Africa’s Development in Midrand, South Africa. One of its fruits is the Southern Africa Network for Biosciences, an initiative based in Pretoria that provides African researchers with access to world-class labs for work on agriculture and health.

In 2007, Juma was the keynote speaker at the first African Union summit that had a focus on science and technology. He urged the heads of state, gathered in Addis Ababa, Ethiopia, to harness knowledge to help their

countries leapfrog industrialized nations.

Juma’s optimism and appetite for action was at odds with the lumbering bureaucracy of African policymaking. He was often frustrated with the slow pace of implementation, and it irked him that science and technology policies were drawn up separately from relevant economic, industrial and social-development policies. He rejected the view that science could drive development through targeted calls from funding agencies for proposals from academics in ivory towers. Rather, he believed in training young Africans to be entrepreneurs and engineers, by investing in infrastructure such as roads and broadband networks and unlocking

African curiosity and ingenuity. “Really, I’m just a cheerleader for African leaders and youth,” he told the *Huffington Post* in 2014.

Juma was no stranger to controversy. His support for biotechnology in developing countries saw him lock horns with people who were lobbying against genetically modified organisms. His book *Innovation and Its Enemies* (Oxford Univ. Press, 2016) charted the battle between “innovation and incumbency” throughout human history. He showed how the fears that led people to initially reject novelties such as coffee, margarine and printing rarely came to pass.

Juma leaves a lasting legacy, not least through the people he met and inspired with his inquisitiveness and mischievous approach. His graduate courses at Harvard on the role of innovation in economic growth and the global economic impacts of biotechnology were popular — in part because of his entertaining lecturing style. True to his vision of getting academic thought out into the real world, he also taught an executive course for senior policymakers and practitioners on how to integrate science and technology into national development policies.

Juma was modest about his achievements, and sanguine about failure, both his own and others’. Development, he maintained, was by its nature experimental, and Africans must be allowed to experiment — to make mistakes, and to learn from them. ■

Linda Nordling is a science writer based in Cape Town, South Africa. She knew Juma from 2005, in her role as founding editor of *Research Africa*, an online research-policy news portal. She tweets as @lindanordling.

MARTHA STEWART