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Viewpoint

People, institutions, and technology: A personal view of the role of foundations in international agricultural research and development 1960–2010 ☆

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ABSTRACT

In the 1940 and 1950s, the Rockefeller and Ford Foundations initiated overseas rural and agricultural development activities in a number of countries in Asia and Latin America. They began with country programs. These programs often involved creating new institutions in the recipient countries, and while the perspective was long term – as long as it took to achieve program goals – the foundations also explicitly sought to work themselves out of a job and turn over responsibility to nationals. By 1960 the two foundations had moved beyond national assistance programs to invent a new model, the international agricultural research center, designed to improve the lives of poor rural people by increasing the productivity of developing world agriculture. Some of the national programs were morphed into international centers. The international agricultural research centers proved attractive to other donors and by the 1970s international agricultural research had become institutionalized in the form of the CGIAR and its associate centers. The 1960s India agricultural program of the Rockefeller Foundation comprised a team of about a dozen American scientists working in India assisting Indian scientists to invent new approaches to agricultural technology development. At the same time and also in India, the Ford Foundation pioneered the integrated rural development model. By the mid-1970s integrated rural development projects were the approach of choice for many donors. In the 1980s the Ford Foundation moved away from agriculture concentrating on broader social issues; the Government of India and Rockefeller Foundation decided Foundation scientists had, indeed, worked themselves out of their jobs and Rockefeller's India program was effectively closed down, although by then the international agricultural research centers, including ICRISAT in India, had attained a degree of maturity and stability. The Rockefeller Foundation invented another new model for agricultural research in the 1990s – the international rice biotechnology network, in which leading scientists from Asian countries, Western countries and the international centers worked together within a framework managed by Rockefeller scientists. In 2006, the Bill Melinda Gates Foundation entered the global agricultural scene in partnership with the Rockefeller Foundation to establish AGRA, yet another new model. By 2010 the Gates Foundation was annually spending about 10 times what the 'old' foundations did and dominating international agricultural assistance, working across the spectrum of agricultural research, extension, and policy, largely focused in Africa.

Five important lessons emerge that may be useful for addressing today's primary agricultural development challenge: that of improving the lives and well-being of people in Africa. First, it is critical not to underestimate the temporal and spatial variability of the biological and physical conditions in which agriculture operates; second, it is critical not to underestimate the institutional challenges of agricultural development; third, ever-renewing agricultural technology is essential and simply transferring technology from other parts of the world or from international research centers will have limited value without local adaptive research; fourth, every country needs its own people with the capacity to conduct adaptive agricultural research and to design and implement agricultural policy; and fifth, people in assistance agencies, national organizations and in rural areas are the key to successful development assistance. These lessons all point to the need for countries to build their own capabilities to conduct agricultural

☆ I appreciate the insightful comments of Randy Barker, Chris Barrett, Gary Toenniessen, Joyce Moock and the journal editors on earlier drafts of the paper. The discussion is based on my years as a staff member of the Ford Foundation in India (1963–1965), the Rockefeller Foundation in India (1967–1968), IRRI in the Philippines (1973–1983), the CGIAR Secretariat in Washington, DC (1983–1986), the Rockefeller Foundation in New York (1986–2003), and as advisor to the Gates Foundation (2006–2011).

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research, establish policies, and design the institutions necessary for a dynamic agricultural sector to meet current and future needs.

The conclusions question whether today's foundations, which have very few staff stationed in sub-Sahara Africa, will be able to achieve the depth and nuanced understanding of local actors and institutions to apply their resources optimally. Can they identify national actors who truly have the will to remake policies to ensure agricultural development? Are enough resources being devoted to educate the people needed to create and adapt agricultural technology for today and the future? Do the organizations which are receiving more than 90% of the foundations' funds have the incentive to create national capacity and work themselves out of a job?

Introduction

In the 1940 and 1950s, the Rockefeller and Ford Foundations initiated overseas rural and agricultural development activities in a number of countries in Asia and Latin America. They began with country programs. These programs often involved creating new institutions in the recipient countries, and while the perspective was long term – as long as it took to achieve program goals – the foundations also explicitly sought to work themselves out of a job and turn over responsibility to nationals. By 1960 the two foundations had moved beyond national assistance programs to invent a new model, the international agricultural research center, designed to improve the lives of poor rural people by increasing the productivity of developing world agriculture. Some of the national programs were morphed into international centers. The international agricultural research centers proved attractive to other donors and by the 1970s international agricultural research had become institutionalized in the form of the CGIAR and its associate centers. The 1960s India Agricultural Program of the Rockefeller Foundation comprised a team of about a dozen American scientists working in India assisting Indian scientists to invent new approaches to agricultural technology development. At the same time and also in India, the Ford Foundation pioneered the integrated rural development model. By the mid-1970s integrated rural development projects were the approach of choice for many donors. In the 1980s the Ford Foundation moved away from agriculture concentrating on broader social issues; the Government of India and Rockefeller Foundation decided Foundation scientists had, indeed, worked themselves out of their jobs and Rockefeller's India program was effectively closed down, although by then the international agricultural research centers, including ICRISAT in India, had attained a degree of maturity and stability. The Rockefeller Foundation invented another new model for agricultural research in the 1990s – the international rice biotechnology network, in which leading scientists from Asian countries, Western countries and the international centers worked together within a framework managed by Rockefeller scientists. In 2006, the Bill Melinda Gates Foundation entered the global agricultural scene in partnership with the Rockefeller Foundation to establish AGRA, yet another new model. By 2010 the Gates Foundation was annually spending about 10 times what the 'old' foundations did and dominating international agricultural assistance, working across the spectrum of agricultural research, extension, and policy, largely focused in Africa.

Five important lessons emerge that may be useful for addressing today's primary agricultural development challenge: that of improving the lives and well-being of people in Africa. First, it is critical not to underestimate the temporal and spatial variability of the biological and physical conditions in which agriculture operates; second, it is critical not to underestimate the institutional challenges of agricultural development; third, ever-renewing agricultural technology is essential and simply transferring technology from other parts of the world or from international research centers will have limited value without local adaptive research; fourth, every country needs its own people with the capacity to conduct adaptive agricultural research and to design and implement agricultural policy; and fifth, people in assistance agencies, national organizations and in rural areas are the key to successful development assistance. These lessons all point to the need for countries to build their own capabilities to conduct agricultural research, establish policies, and design the institutions necessary for a dynamic agricultural sector to meet current and future needs.

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Agricultural program beginnings: Mexico and India

The Rockefeller Foundation worked internationally almost from the time it was founded in 1913, but its first major venture into agriculture in Mexico set a pattern for its other country agricultural programs. In the middle of World War II the Foundation commissioned three American professors to go to Mexico to determine whether the Foundation could help Mexico increase its agricultural productivity. The three, Paul Manglesdorf of Harvard, E.C. Stakman of Minnesota and Richard Bradfield of Cornell, with over 75 years of university experience in agricultural science teaching and research combined, were to have an immense impact on the next 50 years of international agricultural activities.

They spent 2 months traveling more than 5000 miles through Mexico, talking with farmers, officials, academics and ordinary citizens. They concluded that "the most acute and immediate problems, in approximate order of importance, seem to be the improvement of soil management and tillage practices; the introduction, selection, or breeding of better-adapted, higher-yielding and higher-quality crop varieties; more rational and effective control of plant diseases and insect pests; and the introduction or development of better breeds of domestic animals and poultry, as well as better feeding methods and disease control." (Stakman et al., 1967 p. 34). The *first principle* of Rockefeller Foundation work was established: rely on experienced people and give them an opportunity to carefully consider the situation on the ground before making recommendations.

The resulting 1941 report recommended the Foundation send an agronomist, a plant breeder, a plant protection specialist and an animal scientist to assist Mexico to work *in cooperation with Mexican personnel,* not as advisors to, or workers in place of, national scientists. Furthermore, the report emphasized the need to first build research capacity, not extend 'known technology.' The team explained that "Extension alone, and other forms of