

The Transformation of the Mexican Agricultural Program: From Experiment into Ideology

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During the 2012-2013 grant period, I used the Rockefeller Archive Center's (RAC) generous grant-in-aid to develop my research on the efforts of the Rockefeller Foundation (RF) to modernize agriculture in Mexico during the early years of the cold war. The aim of this research was to understand how the Mexican Agricultural Program (MAP) operated on the ground. Most scholarship on this and other "green revolution" programs during the postwar era has taken executive-level planning and discourse as representing the actual efforts and their effects in local communities. However, by reexamining the local interactions between scientists and other aid workers and their target communities, my work seeks to open up our understanding of the relations between so-called first and third world states in the cold war context.

The RF's Mexican Agricultural Program began while WW II was still ramping up. In 1941, after Miguel Ávila Camacho was swept into the Mexican presidency with a mandate for development, and while the populist visions of the former president, Lázaro Cárdenas, were fading into memory, the top tiers of the Mexican government invited the RF down to help modernize Mexican agriculture. For the Mexican officials, a modernized agricultural sector would be the necessary buttress to a new urban, industrial economy. For its part, the RF had long considered an agricultural program as a way of branching out from its current work on

public health in Latin America and its leadership was already thinking that stepping up global agricultural production would be an imperative for global political stability once the gun smoke cleared. With an agricultural program, RF officers thought, they could finally get a step ahead of Mexico's entrenched underdevelopment, which the RF's preexisting public health programs had scarcely affected.¹

Success in the agricultural program was in some ways immediate and impressive. Within a few short years of the RF's arrival, Mexico achieved independence in its wheat consumption, and then, by 1955, it did the same for its primary staple, maize. This was a first since before the Mexican Revolution (1911-1918). During the early years of the cold war, Mexico's "green revolution" became a model of rural development, and similar programs were created by the Rockefeller Foundation, the Ford Foundation, and the USAID in Colombia, Chile, Central America, the Philippines, and India.² However, by the 1970s, and even more so in the 1980s, these programs came under increased criticism from academics as well as activists for many of the unforeseen or ignored social consequences of the modernization scheme.

Following years of growing skepticism and distrust of science in the West and in many parts of the global south, and taking cues from the environmental movement, the critiques railed against the green revolution focused on the science. Most renowned have been the writings of Indian scientist and activist Vandana Shiva, who calls the RF programs a type of "re-colonization," founded on objectifying, abstract and "de-contextualizing" science, that amounts to "a policy of planned destruction of diversity in nature and culture to create the uniformity demanded by centralized management systems."³ Even more moderate critiques of the green revolution have emphasized how reliance on powerful technologies like dams, hybrid seeds, and chemical fertilizers all wreaked havoc on peasant way of life. For more sympathetic writers, it is

a classic tale of hubris and too much faith in one's own capacities.⁴

In academic writing, these and similar development programs are commonly characterized by historians as part of an era of *high modernism*. Most notably, authors David Harvey and James Scott have noted the penchant of both well established and newly minted states to undertake massive, visionary and expensive projects of national revitalization and modernization. In Harvey's terms, high modernism is defined by

“the belief in linear progress, absolute truths, and rational planning of ideal social orders under standardized conditions of knowledge and production ... The modernism that resulted was ... positivistic, technocratic, and rationalistic, at the same time as it was imposed as the work of an elite avant-garde of planners, artists, architects, critics ...”⁵

For those who study the targets (or the victims) of these national revitalization programs, it has become an academic commonplace to highlight such modernizers' myopia, obsessiveness and megalomania and to demonstrate the great social costs and horrible catastrophes that followed in the wake of their conceits of modern agency. Simply put, the scholarship has contrasted the abstract nature of modern planning to the non-abstract reality of lived life, with social violence resulting from the disjuncture between the two. In exactly these terms, Nick Cullather, in his sweeping and powerful overview of postwar agricultural modernization programs, explains the costs often endured by the host communities of these efforts as the consequence of overconfident planning.

However, as I have discovered at the RAC, although high modernism might accurately characterize the expectations of policymaking elites, for the technicians, academics, scientists, and humanitarians who dedicated their minds and lives to modernization, high modernism was already an intellectually unsupportable perspective. By examining the scientific and intellectual process by which the RF pursued the modernization of Mexican agriculture in the early cold war, my work shows that positivism and overconfidence in technology had already been rejected by

the dominant intellectual trends in both science and mid-century liberalism. Instead, the challenge of creating a pragmatic yet intellectually coherent program of modernization revolved around the problems of operating with an ecological perspective on both society and nature and the concomitant issue of managing an infinite number of variables. Such an ecological and empirical perspective, however, proved unworkable. Rather, over the course of the Mexican Agricultural Program (1943-1962), the problem of maintaining authority and control over the program resulted in RF officers retracting from a holistic perspective on their development schemes for rural Mexico, and instead, honing in their sights on what they saw to be the most hegemonic academic discipline, that is, genetics.

Among the RF officers and scientists who designed the MAP in the 1940s it was well-known that using the United States as a model for Mexico would be disastrous. Not only would wantonly imposing American agricultural technology have unintended social consequences, but more importantly, these U.S. scientists knew that imported technologies would simply not work. By the time they arrived in Mexico, Mexican agronomists had already found quite decisively that the technologies widely and profitably used in North American—in particular, American hybrid seed—would not grow in Mexican soil.⁶ It was precisely for this reason that the RF thought that an empirical research program in Mexico would be necessary: if technologies could not be *imported* into Mexico, they had to be created anew using Mexico's biological resources.

Except rather than thinking in narrowly scientific terms, MAP officers were very interested in the social dimensions of their science and technology. They thought the most critical areas of intervention were improving the nation's seed stock and advancing farming methods (the RF's scientists especially abhorred the continued use of wooden plows).⁷ While their social and cultural considerations often included disparagement of Mexico's "tradition

society” and dismay over its tenacity, they were, especially in the early years of the program, quite perceptive about why peasant farmers would not or could not use the newest technologies. Therefore, the RF agronomists attempted to imagine what technologies would work for peasants, such non-hybrid improved seeds. Historian of science, Jonathan Harwood, has gone so far as to call these early ambitions of the MAP “peasant-friendly” technologies.⁸ Whether these were truly viable alternatives that would have saved peasants from the expansion of export agro-industry is doubtful, but what is clear is that no high modern faith in the power of science reigned over the early program.

Although by the late 1950s this interest in the social ramifications of agricultural modernization faded from the RF’s vision. Although American liberalism, the emerging scientific consensus on the idea of ecology, and the mainstream sociological thought, which the RF took very seriously, all emphasized the interconnectedness of science and culture, the MAP became a narrow scientific program. As it turned out, the RF agents found that the social and cultural dimensions of their work were too politically vulnerable, and this meant that authority over the program would be compromised by including a social program. Thus by the 1960s, as the RF agents were preparing to close shop and hand their resources to their Mexican counterparts, and as the MAP was serving as a model for other parts of the globe, the architects of the program saw it more strictly in terms of advancing the most high-tech and instrumental technologies. Although it did not begin that way, the MAP took on the familiar shape of high modernism.

Against the better judgment of their intellectual traditions, the leadership of the MAP eschewed a broader vision and adopted the perspective of technological determinism. To understand this transformation, I examined at the RAC the intellectual and empirical

underpinnings of agricultural science as the RF saw it. My purpose was to demonstrate that mid-century natural sciences, at least as practiced by the RF, provided no reason to believe that technology gave humans any unconditional power over nature, or that technology could be recklessly transferred from one place to another and expected to work. Rather, ecological ideas about nature tempered any untoward faith in science. During this same period, the notion of ecology was migrating from the biological sciences into the social sciences, and this, as well, greatly affected RF programming. However, this notion of social holism and concomitant ideas about social complexity created both epistemic and organizational problems for the RF. These troubles left vulnerable disciplinary and programming boundaries that threatened the RF's control over its project. For these reasons, in the 1950s, after a decade in Mexico, the MAP shed its intellectual responsibility for the social ramifications of modernization and began to think of itself as only responsible for technical matters.

However, the intellectual life of the United States was not all that shaped by this program, which would go on to inspire many cold war projects. If ever there was a moment when these ideas about social complexity and the "science of philanthropy" might have led to a thoroughly integrated social and scientific program of agricultural modernization, it was in the early 1950s. By this time, the MAP had been in Mexico a decade and generally the RF officers felt quite proud of the program thus far. The 1952 national elections disrupted this calm by bringing into office a different Minister of Agriculture, Gilberto Flores Muñoz, who had ambitious plans for a new National Emergency Agricultural Extension Program to rapidly develop the agriculture sector with one big push.⁹

Since the beginning of the MAP extension service had been a cornerstone of the program, along with research and the training of competent Mexican agronomists. When in 1941, the RF

first assessed how the MAP should distribute its attention, the board of trustees agreed with the technical advisors that once proper technologies were advanced, then an extension program would follow.¹⁰ In 1948, the MAP had a number of improved seeds they felt pretty good about, and they knew how to successfully grow in the Mexican climate, and as a result a meager extension project was begun. However, while there was a growing sense that it was time for a massive extension effort, this program remained quite minor.¹¹ Flores Muñoz's ambition seemed the perfect opportunity to bring the whole program to fruition. While the RF joined in the extension service, Secretary Flores Muñoz maintained tight control over the effort, ceding little power to the Americans, both for the cause of nationalism and his own career. As a consequence the MAP scientists functioned largely as scientific experts and were excluded from the social aspects of extension efforts. Intellectually, this inspired the MAP to theorize their modernization program in congruent terms and it led to a structural reorganization to reflect this newly defined mission.

Further research is needed to assess just how and to what extent the transformations at the MAP translated into other, similar development efforts of the early cold war. Subsequent programs in South America and Asia undertaken by the RF and other foundations, and by the U.S. State Department throughout the 1960s and 1970s, drew experience and personnel from the MAP. Additional research is needed in Mexican archives as well, to elaborate on how Mexican political developments affected the RF and ideologies of development during these critical years. Such research—transnational and multi-archival—will deepen our understanding of the nature of American soft power in the American century.

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The ideas and opinions expressed in this report are those of the author and are not intended to represent the Rockefeller Archive Center.

ENDNOTES:

¹ The most thorough study of the effects of the modernization of agriculture on the Mexican countryside remains Cynthia Hewitt de Alcantara, *Modernizing Mexican Agriculture: Socioeconomic Implications of Technological Change 1940-1970*. Geneva, Switzerland: United Nations Research Institute for Social Development, 1976.

² For the wider application of the green revolution model, see Nick Cullather, *The Hungry World: America's Cold War Battle Against Poverty in Asia*. Cambridge, Massachusetts: Harvard University Press, 2010.

³ Vandana Shiva, *The Violence of Green Revolution: Third World Agriculture, Ecology and Politics*. London, U.K. and New York: Zed Books, 1992, p. 12.

⁴ The most recent and wide-ranging treatment of the transnational green revolution development programs, Cullather, *The Hungry World*, supports such a perspective of tragic high modernism.

⁵ David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Malden, Massachusetts and Oxford, U.K.: Wiley-Blackwell, 1991, p. 35; James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, Connecticut: Yale University Press, 1999, p. 377; Odd Arne Westad, *The Global Cold War: Third World Interventions and the making of Our Times*. Cambridge, U.K.: Cambridge University Press, 2005, p. 395. This very quote, originally from David Harvey's *The Condition of Post-Modernity* (p. 35) also inspired, and has been cited in both James Scott's *Seeing Like a State* (p. 377) and Odd Arne Westad's very well received summation of the cold war, *The Global Cold War* (p. 397).

⁶ E. J. Wellhausen, interview by William C. Cobb, June 29-October 19, 1966, transcript, Rockefeller Foundation Archives, (RF) p. 32-33. On the relative perspectives of Mexican and North American scientists in regard to the applicability of seed technology in Mexico, see Karin Matchett, "At Odds over Inbreeding: An Abandoned Attempt at Mexico/United States Collaboration to 'Improve' Mexican Corn, 1940-1950." *Journal of the History of Biology* 39: 2 (2006), pp. 345-372.

⁷ Deborah Fitzgerald, "Exporting American Agriculture: The Rockefeller Foundation in Mexico, 1943-53." *Social Studies of Science* 16: 3 (August 1, 1986), p. 464, and pp. 471-472.

⁸ Jonathan Harwood, "Peasant Friendly Plant Breeding and the Early Years of the Green Revolution in Mexico." *Agricultural History* 83: 3 (2009), pp. 384-410.

⁹ The extended conversations within the foundation about whether to participate in the extension program and on what terms can be found in Folder 94, Box 16, Series 323, record group (RG) 1.2, RF.

¹⁰ "Rockefeller Foundation's Survey of Agriculture in Mexico." Folder 70, Box 11, Series 323, RG 1.1, RF, pp. 8-9.

¹¹ Suggestions for Terms of the New Agreement with Mexican Government, December 6, 1948, Folder 64, Box 11, Series 323, RG 1.2, RF, p.5.