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BOOK REVIEW

Timothy W. Lorek, *Making the Green Revolution: Agriculture and Conflict in Colombia*

Chapel Hill: University of North Carolina Press, 2023. Pp. 342. ISBN 978-1-4696-7382-0. $34.95 (paperback).

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In *Making the Green Revolution*, Timothy Lorek makes a compelling case for the 'vital role' played by Colombia and Colombians (p. 9). Not only did the Rockefeller Foundation's Colombian Agricultural Program (1950–64) undertake critical research – its maize lines figured prominently around the world – but, more significantly, the country served as an 'essential hinge' in the transformation of the Green Revolution from its populist roots in Mexico to the Cold War politics of containment via rural development in Asia (p. 3). Yet more than just correcting a case of 'historiographic amnesia', Lorek's novel perspective explores the local roots and long-term consequences of the Green Revolution in Colombia's Cauca Valley (p. 9). By emphasizing the local scientific tradition that lured the Rockefeller Foundation to Palmira (Colombia), Lorek suggests, *contra* the post-development literature, that the Green Revolution was more a process of negotiation than a Northern imposition. Nonetheless, in the Cauca Valley the main beneficiaries were not family farmers – a purported focus from the early years to the founding of CIAT (Centro Internacional de Agricultura Tropical) in Palmira in 1967 – but the sugar cane industry. Many histories of the Green Revolution emphasize its scale bias: large-scale farmers were best positioned to deploy its technology. By contrast, in this case the dynamics of social differentiation were indirect – placeless research agendas, the proliferation of private-sector agronomists, state biases and political violence – since sugar cane research was not a priority. The unintended effects were dramatic: CIAT, established to improve smallholder production in the tropics, sits in a sea of corporate-controlled sugar cane fields. This image captures the dual narratives – Colombia's role in efforts to modernize tropical agriculture and the monopolization of the Cauca Valley by large sugar cane producers – that Lorek deftly weaves together to underscore the contradictions of the Green Revolution.

Making the Green Revolution is divided into three sections: the early history of agricultural modernization in the Cauca Valley (1920s–1930s), the consolidation of the valley's sugar cane industry (1930s–1940s) and Colombia's participation in the global Green Revolution with the arrival of the Rockefeller Foundation and the founding of CIAT (1950s–1960s). The main story begins with the founding of the Palmira Agricultural Experimental Station in 1927 by Ciro Molina Garcés, a conservative Catholic who believed in the redemptive value of rural labour, and Carlos Durán Castro, a young agronomist who became its first director. Dismissing claims of racial degeneration to explain the fertile valley's stagnation, they sought salvation in tropical agronomy. Economic development and raising rural standards of living required both peasant and landed elite, under the

tutelage of a modernizing state, to adopt scientific farming practices. 'Industrial pastoralism' is how Lorek describes their outlook (p. 47). They were also internationalists, cultivating ties with foreign agronomists and research institutions to bolster their science and prestige. Initially the key figure was Carlos Chardón, who led an agricultural mission from Puerto Rico to the Cauca Valley in 1929.

While Chardón designed a diversified research programme to improve crop varieties and farming practices, the Puerto Ricans were especially surprised to find that the Otahití variety of sugar cane, which dominated global production before the spread of a sugar cane mosaic virus, still reigned supreme. Yet most farmers dismissed their advice to replant their fields with POJ 2878, a mosaic-resistant variety that originated in Dutch-controlled Java. Not only did Otahití (or *la nacional*) have symbolic appeal, but the introduced cane was also harder to crush and produced an inferior grade of *panela* (raw sugar) in the region's antiquated mills. The exceptions were the few industrial sugar refineries, whose modern equipment could better handle the new cane and whose close collaboration with Palmira agronomists convinced them of its productive value. As a result, they were largely spared the devastation when the mosaic virus spread through the valley in the mid-1930s. The virus thus helped consolidate the power of sugar refiners and contributed to state formation as the national government converted Palmira into a national centre to study sugar cane diseases. It was this tradition of scientific research and state support that captured the attention of the Rockefeller Foundation.

In a 1942 report, "Dusty" Miller highlighted an exception to the poor state of agricultural research in Latin America: Palmira station. This prompted the Rockefeller Foundation to support agronomic education in Colombia and, in 1948, to select Palmira – following Colombian petitions – as the centre of the Rockefeller Foundation's first country programme outside Mexico. The move to Colombia, Lorek argues, was justified by a renewed Malthusian discourse that saw agricultural modernization as critical to containing hunger, political unrest and communist expansion. In this context, the decision to launch a research program in a country amid a civil war (*La Violencia*) makes more sense: the unrest justified, rather than threatened, the initiative.

Although Lorek describes the Rockefeller Foundation's work in Colombia, he is more interested in its social consequences – a sea of sugar cane and landed inequality – than in its scientific practices. Because of research shifting from actual to abstract smallholders, and training agronomists monopolized by large-scale farms, Cauca Valley peasants remained at a competitive disadvantage. The argument is curious, and merits closer analysis, because it suggests that a grounded Green Revolution could have forestalled the social differentiation fomented by the historical version. Lorek also rightly points to the role of the state – by consolidating sugar cane terrain through flood control and irrigation works and peasant relocation – as well as physical violence in processes of dispossession or 'deterritorialization' (p. 208). Yet we should also keep in mind that landed elites long dominated the valley floor and the expansion of sugar cane came largely at the expense of pasture grasses. Where *Making the Green Revolution* shines is the rich narrative that connects local and global histories of agricultural modernization and how it ties this story to the social and biological transformation of an agricultural landscape. Scholars interested in agrarian history, state formation, discourses of modernization and the Green Revolution will find it both illuminating and absorbing.