

## *Book Reviews*

Aniket Aga. 2021. *Genetically Modified Democracy: Transgenic Crops in Contemporary India*. New Haven and London: Yale University Press. 328 pp. Notes, references, index. \$65 (hardback—ISBN: 9780300245905)

Three decades into the global spread of genetically modified (GM) crops, social scientists are probing systems of governance (Hetherington 2020; Peschard 2022) and farmer experience (Flachs 2019; Rock 2022) to ask how they fit with a larger agrarian capitalism, changing climate, and shifting political landscape. The inner workings of bureaucracy and science provide a backdrop for these studies in how GM crops become known and sown in different places, but their trajectories are taken for granted. Powered by rich and multi-sited fieldwork, Aniket Aga's *Genetically Modified Democracy* is an important, insightful book that bridges the agricultural and political by asking how GM debates reshaped, and were reshaped by, the work of Indian democracy. It is not just that India's experience with GM crops provides a particularly insightful case study in a global story of democracy, scientific claim-making, and agrarian capitalism. Instead, Aga flips this narrative to centre India's scientists, policy-makers, activists, and national aspirations in a gripping description of bureaucratic response to scientific challenge. By interweaving historical and ethnographic perspectives, *Genetically Modified Democracy* reveals how to listen and speak about science in contemporary India.

The book is organised into three parts that underscore how specific national concerns and idiosyncrasies shaped the intersections of democratic mobilisation and biotechnology in India. The first part illuminates how biotechnology in India merged nationalist projects of agriculture, governance, and biological science. Through interviews with key biotechnologists, Aga shows how this new biology was initially separated from larger agricultural concerns in the wake of the green revolution. Comparatively diverse and decentralised, Indian biotechnology progressed as a bench science removed from farm fields. This institutional separation of policy, science, and seed producing is a stark contrast to globalised or US-centric explanations of crop breeding, consolidation, and commercialisation—another signal that Aga's regional specificity

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matters. In distinguishing biotechnology from other aspects of the agricultural bureaucracy, the governing bodies that would oversee GM crops came to enjoy budgetary and intellectual autonomy just as the newly liberalised economy would reshuffle ministerial authority. This institutional history is all the more compelling for highlighting how governing bodies and scientists claim relevance amid changing paradigms.

The second section describes how diverging visions of civic epistemology provided opportunities for plural campaigns against GM crops. Attentive to how facts come to be relationally known rather than *a priori* things to be discovered, Aga parses legal-administrative and scientific modes through which India's regulatory system learns about biotechnology. This perspective allows him to differentiate Greenpeace's bureaucratic failure to demand an investigation of GM Doritos (because of missing documents) from state officials' scientific success in stopping GM mustard trials (because they did not obtain the proper permissions). Aga meticulously documents, down to a missed lunch break, the 'different modes through which claims are made, adjudicated, and dismissed, and the way claims made in different registers enable and constrain bureaucratic decision making' (p. 125). Countering sociologist Ron Herring (2015) who argues that activists exploit the uncertainty inherent to scientific observation, Aga shows how diverse constituents making specific technical claims have learned to centre risk in ways legible to Indian regulators. This is not a blanket indictment of regulatory inadequacy. Rather, Aga reveals how the state thinks and works around GM crops as a public interest issue. These hurdles are not philosophical issues of modifying life so much as national and scientific issues of government transparency, federalist authority, and deliberative policy.

The final section traces the impacts of these policy decisions and democratic coalitions across India's agrarian political economy, particularly through seed breeders and the agricultural input retailers. Although public seed breeders dominated the green revolution infrastructure, liberalisation since the 1980s boosted private breeders. Through a history of Mahyco, Aga shows how companies develop long-term bureaucratic and agricultural connections to gain advantages that seed sellers from other states, let alone other nations, lack. Aga helpfully problematises individual farmer seed choices as a referendum on whether GM seeds are good for farmers by showing that knowledge is a relational act between small agricultural retailers and farmers. Against a narrative of agrarian distress, these children of farmers, with important caveats of caste, gender, and class, find

opportunities to accumulate capital and pursue upward mobility in neoliberal agriculture outside of farming itself.

At each scale, Aga deconstructs a unilinear story of how GM seeds develop, activists organise, or food regimes work. His combination of historical and ethnographic data reveal the particularities in Indian history, policy, science, law, and agrarian organising that reworked the structures of democratic engagement in India. Key to Aga is the interplay between governments and politico-scientific controversy, a question that can only be answered by attending to the historical idiosyncrasies stressed throughout the book. This insistence on the particulars is one of the few limitations of this book, in that it limits the extent to which Aga's theoretical arguments can connect to other scholars of bureaucracy, agricultural science, and democracy. This is unfortunate, because other scholars would do well to follow his lead and parochialise Europe or the United States in their own work. Neither the notion of GM crops as the solution to India's many intersecting crises, nor the worst-case dangers of GM crops are inevitable; history presents far too many specific problems. Democracies muddle through controversies that span science and politics by reconfiguring the structures of decision-making. *Genetically Modified Democracy* shows how those same controversies structure political organising within and without the bureaucracy.

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*Purdue University*  
*West Lafayette*  
*Email: aflachs@purdue.edu*

ANDREW FLACHS