
Book Review

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Aniket Aga, *Genetically Modified Democracy: Transgenic Crops in Contemporary India*. Hyderabad: Orient BlackSwan, 2022, 328 pp., ₹1245. ISBN 978-93-5442-107-5. [Originally published by Yale University Press, 23 November 2021]

India's agrarian crises is a deep-rooted, evolving problem that enmeshes its large rural population in hard, penurious and no-escape dependence. Declining subsidies and public support, effects of synthetic chemical and monocrop regimes under erratic monsoons, depleting groundwater, price and climate uncertainties have driven thousands of cultivators to suicide and presents unique challenges for agricultural policy. Yet, domestic and international agribusinesses, biotechnology entrepreneurs and a new class of farmers may find profitable opportunities amidst such turbulence in transgenic crops. Aniket Aga's timely book, *Genetically Modified Democracy: Transgenic Crops in Contemporary India*, provides a nuanced and non-polarised framework to observe the complex terrain of transgenic crop debate, through a multi-sited ethnography of science, democracy, social movements and agrarian capitalism. Through an exploration of the 'democratic interchange' among multiple actors around recombinant-DNA technology and competition to profit from the agricultural seed market, the book provides new insights into the challenges of framing agricultural policy around genetically modified organism (GMO) crops in contemporary India. The plurality of perspectives that emerges through this exercise works not only to 'unsettle the authority of bio-technology' but also reveals the disproportionate space occupied by GMO in the field of agricultural science through its untenable claim to resolve agrarian crisis.

Aga foregrounds the specific modalities of knowledge production entailed in 'scientific activity' and 'state making' to discuss how state department scientists and bureaucrats, farmers and farm input retailers, domestic and multinational seed companies and green activists shaped the politics of GMO regulations, seed development and adoption. Drawing evidence from the regulatory debates and administrative decision-making from the specific cases of Doritos chips and genetically modified (GM) mustard trials, Aga shows how regulatory systems often fail to take decisions anchored in science. Aga is concerned not so much with bureaucratic inefficiency but the consequences of the 'fissures' between scientific and legal-administrative knowledge for farmers. The resulting inadequacies in the regulatory regime means that the 'hazards of genetic modification' that requires technical knowledge becomes procedural paper evaluations of bio-safety protocols. Aga also provides a critical insight into anti-GM activism that uses traditional street protests, cross-sector coalitions and

electronic media successfully to create populist and emotive campaigns against unethical science and neoliberal capitalism. While the alliances of farmer organisations, urban consumers, international Greens and local NGOs achieved some success in raising awareness about the adverse consequences of GMO in crops and food and state regulations lowered the price of *Bacillus thuringiensis* (Bt) cotton hybrid seeds, it failed to generate scientifically informed debate about the potential for novel technologies in agriculture.

Drawing upon fieldwork in western India, Aga shows how the agribusiness industry penetrated rural area through input retailers drawn from dominant farming caste groups and how farmers were overwhelmingly dependent on these retailers for information, inputs, credit and sale of produce. In the absence of public support through information and extension services, farmers were forced to operate under wide ranging uncertainties without adequate knowledge or technical support. Retailers, also from the farming community, often provided incorrect information or toxic-excessive inputs in order to push sales and in their struggle to stay afloat. Procedural safeguards and public activism around the ethics of genetic modification and patents failed to protect farmers either from the vagaries of climate or market, though providing them with unstable means of accumulation through retailing or potentially unsafe farming practices, that boosted the domestic agribusiness already supported by policies of licensing and pricing. Could the farmers have benefitted from existing GM technology if legal, administrative and scientific exchanges had been more transparent and less contentious? Unlikely, Aga argues, since the available genetic modifications, Bt toxin and herbicide-tolerant crops also have limited efficacy, labour-displacing attribute and were developed for large-scale industrial agriculture.

Conceptually, Aga pursues an anthropology of democracy to expand the field of agrarian policy, through the inclusion of positions, interests and voice, beyond perspectives that pitch a unified peasantry and environmental activists against a monolithic state or multinational seed company. An important outcome of this exercise is to show how unpacking 'influential discourses' in national politics is necessary in order to observe how domestic and multinational agribusiness in the context of liberalised seed industry shapes regulatory interventions. The book links important questions about transgenic crop regulations and democratic contestations through the roles played by diverse institutions and actors whose truth claims restrict the scope of appropriate scientific innovation in agricultural policy. The book makes an important contribution to our understanding of the complex pathways through which new technologies in agriculture are promoted, understood, experienced and adopted, and how agrarian surpluses are extracted from a sector in crisis as the public sector retreats and gains from the Green Revolution fades.

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