The Everyday Wars on World Agri-cultures

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> Our real dilemma is how to *unthink* (emphasis mine) the entrenched belief that we will starve without new tricks from scientists and input industries when in reality we have been locked on a treadmill of subsidized over-production for over the last century. When agriculture is industrialised—driven by those input industries and the perennial support and subsidy they need from the public purse—it grows inexorably at the expense of our economy, environment, and health. (p xiv)

Finally, the lid on the dominant narrative that considers non-modern/industrial agriculture to be inadequate and inefficient, which raises the spectre of burgeoning population and impending food shortages as inevitable has been blown. Glenn Davis Stone draws on anthropology and science and technology studies (STS) to present a book that unpacks the myths of the science and technology establishment, the agribusiness industries and corporates, and conniving governments have deployed to promote and make industrial agriculture or, more recently, industrial chemical agriculture (ICA) the hegemonic form of agriculture across the world. As he rightly points out, it is now urgent that these myths by which industrial agriculture is promoted be challenged especially by "unthinking" their foundational premises and ideas.

Stone locates the roots of this dilemma, and its subsequent additions, which have combined to threaten and/or erase pluri-diverse agricultural practices across the world, and which has neither addressed the challenge of providing adequate nutritious food nor stemmed the growth of population, to the founding ideology formulated and preached by the pastor Thomas Malthus (1766–1834). In Stone's succinct biography of Malthus, the influential man emerges as a reactionary to the ideas of Enlightenment, disdainful of peasants, and insouciant about the

BOOK REVIEWS

The Agricultural Dilemma: How Not to Feed the World by Glenn Davis Stone, *Oxon, UK: Routledge, 2022; pp 232, price not mentioned (UK Edition) (hardback).*

structural conditions of poverty and disadvantage. Malthus's "dismal theorem" propounded the potential imbalance between a burgeoning population and a diminishing food supply. And as Stone highlights, Malthus drew on his anti-pathetic view of the working classes to include his "utterly dismal theories" of the futility of feeding the hungry and the needy. Over time, Stone elaborates, neo-Malthusian notions (via new 20th-century heroes such as Norman Borlaug, Paul Ehrlich, Henry Wallace, and others) have drawn on and embellished Malthus's theories to reinforce the spectres of famine caused by unchecked population growth. These have become the bases for promoting industrial and chemical agriculture and have subsequently served the interests of certain individuals, states, and corporates.

Posing the apt question, "Quo Prodest" (who gains), Stone unpacks the three ways (appropriation, subsidies, and overproduction) in which corporates, science and state reap the gains of the higher productivity of agricultural produce, and the higher and continued dependency of farmers on industrial chemical inputs. But the costs of this productivity are borne by those who enter into its treadmill, primarily agriculturists themselves. Forms of "appropriation" are where "agricultural processes (are) transformed into industrial activities and then reincorporated into agriculture" (p 56)—processes that support the science establishment and the corporates via the endless treadmill of inputs that are required to address the continuous set of problems that ICA creates. Stone lays bare the layered and sophisticated lies through which varied subsidies, primarily to corporate players, has become the bedrock in which the industrial form of agriculture is promoted and reproduced. Highlighting how fertilisers are promoted, he points out that

> it is misleading to conclude that we need the fertiliser simply because we have so many hungry mouths to feed; it's more that we have so many hungry overproduced crops to feed. (p 84)

With data and details, the author highlights how fossil fuel-based fertilisers that are products of a compromised science establishment and which are in reality products of war machinery are sold as panacea for the assumed inefficiency and limitations of non-industrial agriculture. Both the forms of appropriation and subsidies that result in overproduction (leading to depleting soils and decreasing profits for cultivators) belie the very premise of Malthusian ideas—that agriculture or food supply cannot match the growth rates of population.

A Sounding Board for Current Trends

Stone's book provides a sounding board to review and contextualise other key ideas related to the history and impact of modern ICA. His elaboration on how increased agricultural productivity was not necessarily "a societal benefit" (p 155) nor was it economically sound can be linked to Herbert Marcuse's (1969) prescient critique of capitalist industrialism's excessive focus on productivity, which he considered as generating "negative productivity." Marcuse had noted that societal well-being cannot be tied only to higher economic production of quantitative growth, but attention needed to be paid also to the quality and qualitative changes, which would defy existing relations and institutions of exploitation. The book details the advent of the gargantuan industrial agriculture regime that promises neither a positive qualitative change in institutions and relations nor a productivity that could assure a balance between social demands and ecological capacities.

Stone's elaboration of how the flagship "green revolution" promoted in India seconds what Hetherington (2020) has described as constituting a new "agricultural biopolitics," in which a state promotes a particular type of agriculture on the bases of assuring security and welfare but which are often belied in reality. In Stone's details (based on his fieldwork in Andhra Pradesh) about the forms and extent of "deskilling" among agriculturists, who in their haste to adapt and compete for higher productivity are losing long-evolved forms of agricultural skills, are issues that require to be better documented and studied for several parts of the world. The unpacking of the terms and strategies by which contemporary neo-Malthusians have promoted ICA is reminiscent of the contradictory position taken by even those in the established left circles. Reposing faith in the strength of scientific tempers, science and industrial methods, several left scholars and activists, especially from the established left parties, are disdainful of all forms of non-modern agriculture. Witness their critique and lack of support for organic agriculture agendas in Sri Lanka, and their support for the use and promotion of genetically modified seeds in India.

In mapping the various ways in which science-technology–state and capital have coalesced to promote ICA, Stone's book is a succinct summary of the way in which ICA has mutated to distort the very bases of agriculture as a source of life and well-being. It has now generated regimes of ill-fare across the world, damaging ecologies, disrupting human-land relations, and generating economies that are counterproductive. His critique of the failure of hybrid seeds, despite the "halo" (p 129) ascribed to them and the fact that they are upheld to be as important as "nuclear power" (p 130), indicates to us the many battles that are raged within the establishments of science, technology and global politics, in which it is not the good of the people or of nature that is upheld but the profitability of corporates and the governments that support them. The resulting loss has been not only of the rich agricultural biodiversity (especially of open pollinated varieties) but also that of farmers' rights to agricultural knowledge and resources.

Given such trends, it would not be out of place to indicate that the devastations that the hybrid seed and their new avatars of genetically modified seeds industry have wrought on plural agricultures, are now manifested in multiple ways across the world. Sold and promoted by agri-corporates, and abetted by crony capitalist governments, vast tracts of land the world over are now under the tutelage of both industrial agriculture and hybrid seeds. In such contexts, where seeds were once objects of worship and subject to processes of ritual benefaction, hybrid and genetically modified seeds have become not sources of salvation but of nightmares. As Chao (2018) notes about West Papua where corporate monocultivation of oil palm (*sawit*) has disassembled rural life and relations, it is the oil palm itself that is considered to bring nightmares into the lives of peasants and workers. Similarly, in the vast tracts of Paraguay where soya cultivation is promoted as key to an agri-export economy, and which has displaced the revered corn, soya is now considered to be a "killer soya" (*la soya morta*) among smallholders and cultivators.

Critique

Stone's work is seminal in that it interrogates the multidimensional constitution and reproduction of the corporate–industrial–chemical agricultural regimes that have become hegemonic across the world. For this body of work to gain more currency, a few points could have been better qualified, thereby adding to the strength of this incisive study. First, Stone identifies the birth of the "modern industrial agriculture" (p 117) to be in the period of the 1950s when hybridisation of seeds, the intensification of cultivation with a range of chemical inputs, and reification of high productivity became the bedrock of what was considered to be a successful model of agriculture. Here Stone seems to overlook the history of agriculture in the United States where the introduction of new technologies, especially tractors, tillers and sowing machines, enhanced not only extensive cultivation (including into ecologically fragile areas) but also intensification and monocrop cultivation. The subsequent commercial and economic success of such a model of agriculture from the 1910s to the 1920s, is also noted by Stone as the period marking "the unstoppable growth of agricultural input industries" (p 134). As agricultural historian Earle (1988: 190) pointed out that the 1920s onwards was a time when the vast and varied "testimony of practice" in agriculture made way for "testimony of science" and improving land meant imposing order on what was considered untidy and unruly landscapes. The impact of such an approach buttressed by new technologies of cultivation resulted in what was the "Dust Bowl" of the 1930s and encapsulated the deleterious impact of new agricultural technologies and industrialised systems of mass production on ecologies and farmers (Worster 1988). That such a model had gained sway is also evident from the example of the erstwhile Soviet Union which had sought to emulate these industrialised methods of agriculture within its own iron-frame of collectivised agriculture. The tragedy of the devastating famines in the Soviet Union is only one more instance of the imposition of the industrial–chemical complex by powers that be, and in which it is the masses that pay the price.

Second, although Stone enumerates the multiple and complex ways in which the corporate–industrial–chemical (CIC) agriculture has been devastating, he does not adequately address the displacement of varied land reform acts and policies, which accompanied the promotion of CIC agriculture. Promoted as packages with external inputs, industrial agriculture was and continues to be promoted by fostering large holdings that have led to the erosion of existing land rights, especially for small and marginal farmers. The subsequent impact has led to the displacement of large numbers of small and marginal farmers, and to the rupturing of rural societies across large regions of the world.

Stone provides a fine elaboration of what he terms as the "Third Agriculture" as juxtaposed to the "First Agriculture" marked by high population and low productivity and "Second Agriculture" that

is represented by industrial agriculture. However, his delineation of the "Third Agriculture" as, primarily, instances of non-industrialised, but successful peasant-based "intensification" of cultivation at the face of population expansion (drawing on agricultural practices among the Kofyar/Pan of Nigeria's Jos Plateau) requires qualification. Such instances are important to highlight farmers' attempts to engage with the challenge of meeting food security but in reality these cases (of successful intensification of agriculture) are only few and far between. Instead, if the emphasis was not only on productivity, it would have been appropriate for Stone to highlight the wide range of agri-cultures across the world from agro-pastoral, agroforestry, dry cultivation, agro-fishery and agro-horticulture that were also once flourishing systems. They were able to provide food security, and ensure both ecologically sustainability and economic stability but were not necessarily based on intensification. If the imperatives of productivity and productivism itself must be challenged, then a focus on varied agricultural practices that are more holistic, in as much as they are ecologically sustainable, cater to social and economic needs, and also produce adequate quantities of grains/food, can be considered.

Conclusions

In our search and assertions for alternatives to the hegemony of CIC agriculture, there are three key challenges that Stone's work lays out for us. First, can academia and research revise their received narrative and theories to go beyond the negative association between non-modern agriculture and food supply? Second, can the science and technology establishment recognise the very counterproductive and anti-sustainability ideas, practices and inputs that they have generated and promoted? Will the manifestation in full fury of global warming and climate change initiate a rethink, and can the harms that are promoted via policies and inputs, couched in languages of neo-Malthusianism, be reversed? Third, can political actors remove the mantle of imitating agricultural and economic models derived from the capitalist West as viable solutions to food security? Can a recognition of the value and potential of diverse agricultural complexes across the world be made into political praxis? In this context, the attempts such as those by the Alliance for Food Sovereignty in Africa, which seeks to counter the hegemonic Malthusian derived narrative and the global capitalist agenda of the Alliance for a Green Revolution in Africa that the Gates Foundation seeks to promote, can be our new models in which food sovereignty and people's knowledge and rights are privileged over scarcity spectres and hidden profits.

Reports of the disembedding of rural economies, the destruction of varied agricultural complexes, and the loss of local food cultures have deepened food insecurity across the world. Transnational food supply continues to be a political weapon (now evident in the desperate situation that Sri Lanka has been reduced to and the implications of the Russia–Ukraine war) and couched corporate agendas and duplicitous national policies continue to deploy neo-Malthusian ideas for the indispensability of ICA. These situations provide urgent justifications to seek solutions, so that food security and sovereignty must be in terms of sustaining and scaffolding diverse, locally evolved agri-cultures, and promulgating policies that serve local and national interests and not global or national corporate-capital calculations. The dilemma of "how to feed the world" must be in balancing the strengths of ecologically viable agri-cultures that can also make for socially just and economically stable economies and societies.

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