

Suzanne Moon, *Technology and Ethical Idealism. A History of Development in the Netherlands East Indies*

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Suzanne Moon's *Technology and Ethical Idealism* provides a meticulous and elegant history of the place of technology in debates about development in the late-colonial Netherlands East Indies. While most scholars and policymakers concerned with development issues will be familiar with the "small is beautiful" (Schumaker 1973) approach to development that emerged in the 1970s, few will be aware that many of the core arguments put forward in favor of "appropriate technologies" were in fact rehearsed in great detail in colonial debates about how best to increase production and improve human welfare in what is now Indonesia. Moon's book focuses on the period between 1900 and 1942, a span of time that saw the Dutch administration become deeply involved in the everyday life of its colonial subjects. This period is usually associated with high modernism and the view that the introduction of new technologies will lead to a better society (Barker 2002; Mrázek 2002). What Moon shows is that the faith in technology to deliver a better society was here not generally associated with a commitment to large-scale projects. On the contrary, in both agriculture and industry, the administration overwhelmingly used strategies that emphasized the benefits of small-scale technologies that were tailored to suit local needs and local knowledge. Moon thus provides a powerful challenge to the idea put forth by James Scott (1998) that high modernist state development projects obey a simplifying logic and tend to ignore the specificity of local circumstances. In the Netherlands East Indies, there was no shortage of disagreement over how best to pursue development, but there was a widespread acceptance of the view that new technologies would only encourage development if they were calibrated to fit local circumstances.

The central focus of Moon's book is the Department of Agriculture, which was "the central authority for agriculture in the Indies, and therefore, the primary organization to manage the development of the indigenous people" (p. 28). From its creation in 1904, the department was one of the main sites for scientific innovation

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in the Indies, and its role in promoting agricultural development meant that it became a crucial terrain for conflicts over colonial policy and practice. Moon traces these conflicts through painstaking study of a wide range of colonial texts, including official correspondence, department reports, special investigative reports, speeches to the *Volksraad* (People's Council), newspaper articles, and books. From these documents, she manages to construct a narrative account of how particular ideas about technology and development held sway in the department at various points in time and how these ideas took shape against rapidly changing political and economic circumstances in the colony. What she shows, however, is that policy was not always determined through top-down processes. Quite often, it was shaped from the bottom-up by the successes and failure of agricultural extension work in parts of Java and Sumatra. Later in the book, Moon's study moves beyond the Department of Agriculture to show that the ideas that dominated discussions about agricultural development were not restricted to that domain; strategies for industrialization were seen through much the same lens.

The focus on small-scale technologies was in part a response to perceived failures in large-scale agricultural projects. In the late nineteenth century, a massive irrigation project built by the Department of Public Works in central Java, known as the Solo Valley works, was subject to large cost overruns and poor planning, and many doubted that improved irrigation would lead to higher rice yields for indigenous farmers. In the 1920s, an attempt by the Department of Agriculture to increase food production by mechanizing rice production in Sumatra had dismal results. The experimental farm, which had been modeled on highly mechanized Californian farms, ended up producing far lower yields than indigenous cultivators were producing at the time (p. 87). Spectacular failures of this kind only served to reinforce a view prevalent among many policy makers that large-scale projects would not improve indigenous welfare or increase outputs. The small-scale approach was also a result of economic exigencies, such as the Depression, and a changing political culture, which increasingly saw indigenous farmers as culturally remote and therefore unlikely to adopt innovations that did not "fit" their customary values and methods of production.

Moon is careful to show that those who promoted small-scale approaches to development did not always agree on how best to go about it. Indeed, there were quite dramatic shifts in policy as time wore on. Initially, the Department of Agriculture took "small farms" as its object of improvement and sought to introduce line-selected or "purified" varieties of rice that would produce higher yields (p. 49). These lines were tested in demonstration plots, and a cadre of indigenous scientists cum civil servants (*mantri*) was given the task of using both science and traditional authority to encourage farmers to adopt the new varieties. However, political disagreements and experiences on the ground meant that this approach was significantly revamped to focus less on science and more on extension work. Demonstration plots were opened to farmers and moved from place to place so that they could be used for direct outreach and experimental research in situ. Emphasis on line purity was forsaken in favor of a focus on varieties suitable to local circumstances. And most importantly, experts began to place less emphasis on technology choice and more emphasis on the sociology of development. Influenced by Boeke's (1946) notion of the "dual economy," which distinguished between a western sector of the economy and a native sector, they began to direct their

initiatives at a select group of farmers who were thought to be more market-oriented and modern and thus more likely to employ western development techniques.

In the course of telling this history, Moon highlights a number of important features of late-colonial development policy and practice in the Netherlands East Indies. She shows, for example, how sugar planters sought to—and generally failed to—shape the culture of development in the Department of Agriculture; she describes the effects of World War I and the depression on development policy; and she explains why successive cohorts of indigenous experts did not always end up playing their assigned role of mediating between the government and indigenous farmers but chose instead to move into the government bureaucracy or to go to work for larger plantations. She also points out that Indonesian nationalists writing in the 1930s did on occasion write about technological change but generally saw it as an issue that ought to be addressed after political change had been effected. Most importantly, Moon shows that during the late 1920s and through the 1930s, as the Indies was becoming increasingly divided along racial lines, most agricultural experts continued to believe that close contacts between extension workers and local farmers was the key to successful development. Students of colonial Asia will find much to interest them in this book.

In today's Asia, where high modernist megaprojects like satellite systems, big dams, space programs, skyscrapers, and high-tech super-corridors have become so ubiquitous, it is easy to assume that the small-is-beautiful ideas of appropriate technology and human-centered development represent a relatively new critique of longstanding development practices. Moon challenges this view, showing us instead that in the Netherlands East Indies the small-scale approach to development was in fact the approach that dominated colonial policy in the crucial domain of indigenous agriculture and the less important domain of industry.

For students of postcolonial Asia, this fact raises an important question concerning the historical roots of current oppositional discourses to high modernist development policies: Do these discourses have their roots in Schumaker or in Dutch ethical idealism? Or, as Moon herself at one point speculates, might the genealogy of Schumaker's ideas itself lead us back to colonial debates in the Netherlands East Indies? If further research were to show that the latter is true, it would be quite astounding: another example of how a discourse invented in colonial contexts made its way back to a metropole and then ended up having widespread global effects.

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